
TABVLÆ
SINVVM
TANGENTIVM
SECANTIVM,
ad Radium 10000000;
Met 't gebruyck der selve
Rechtlinische Triangulen,
Door Fr. van Schooten.
Professor Matheseos
tot Leyden.
Tot Amsterdam,
By Willem J. Blaeuw
inde Sonnewijser.
1627.

BREVIS INSTRVCTIO
de usu harum tabularum.

HÆ Tabulæ sunt numeri calculo Mathematico inventi & in tres ordines diversos reducti, quibus exhibetur proportio linearum omnium rectilineorum triangulorum, quæ secundum angulorum suorum capacitatem lineæ aut basi communi inscribi possunt.

Et cum illarum auxilio ex notis lateribus & angulis, ignota latera triangulorum rectangulorum, & per consequens acutangulorum & obtusangulorum etiam, mensuremus & sciscitemur.

Angulique in campo observandi nullo instrumento accuratius possint mensurari, quam illo in

gradus & minutas primas diviſo: itaque hæ tabellæ quoque eouſque ſubductæ ſunt, ut illarum uſus in tot triangulis rectangulis ſe effundat, quot minutas primas quadrans circuli præter unam capere ſufficiens fuerit.

Ita ut primi numeri exhibeant conſtitutionem trianguli rectanguli, cujus angulus acutus baſi vicinus unum minutum non tranſit, ſecundi angulum ipſum duab. minutis menſurent; tertii trium minutarum angulum demonſtrent, &c. & ſemper ſic incrementa ſua per minuta ſingula ſumentes, donec angulum acutum baſi vicinum 89 grad. 59 min. æſtiment.

Pro longitudine autem baſeos, quæ in uſu & calculo tabularum ſemidiametri nomen ſortita eſt (propter arcum, qui melioris intellectus gratiâ ad hanc diſtantiam

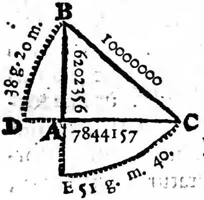
am ex angulo acuto ut ipſius amplitudinem ſignificans ſupra illam deſcribitur aut fingitur) aſſumpta ſunt 10000000 numerus certe non ineptus, ut calculo & tabularum uſui inſerviat, quod facillimè ſubtrahi, addi, multiplicari & diviſoris officium ſubire poſſit: quo autem uſus illarum ſe ampliſſime effunderet, ita calculus inſtitutus eſt, ut *illæ* formam uniuſcujuſque trianguli duplici forma exhibeant; prima forma repræſentatur à triangulo, cujus hypothenuſa pro radio aſſumitur, ſecunda præſto eſt, & cum cathetus vel baſis radii munere fungitur, quibus tandem proportio laterum datorum triangulorum cum diverſis ſuis numeris diſtinctis invenitur, qui ſeorſim à columna tabularum prima exhibentur ſecundum primam trianguli faciem. columna

 autem

autem altera unum latus trianguli secundæ formæ mensurat, tertia secundum trianguli latus patefacit.

Exemplo dicta clariora fient:

Vt in triangulo plano rectangulo A B C hypothenusa B C subtendens rectũ angulum secundũ primam formã ponatur pro semidiametro aut 10000000



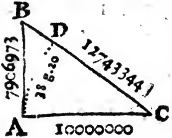
propter arcum B D, amplitudinem oppositi anguli C, qui est 38 gr. 20 min. mensurantem, aut arcus C E gratiâ amplitudinem anguli B 51 gr. 40 min. describentis: His sic stantibus latera trianguli apud Mathematicos Sinus audiunt, & quidem secundum capacitatem uniuscujusque

opposit

oppositi arcus : scilicet A B sinus arcus B D aut anguli C 38 gr. 20 min. & A C sinus arcus C E aut anguli B 51 gr. 40 min. quorum numeri in tabulis sub titulo sinus prope 38 gr. 40 min. reperiuntur 6202356 pro mensura lateris A B, & sub titulo 51 gr. 40 min. pro numero lateris A C 7844157 partes radii, aut latus B C, ita ut secundum primam formam, trianguli latera sequentibus insigniantur numeris.

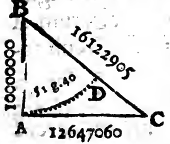
Nempe B C 10000000, A B 6202356 & A C 7844157 partibus.

Alter modus sequitur Ex. Gr. in sequenti figurâ, ubi trianguli crus alterum A C sit circuli radius 1000000, & ad hanc distantiam arcus A D ex angulo



 C du-

C ducitur dimetiens magnitudinem anguli C, latus A B hunc arcum tangit in A, B C autem ab eodem arcu ſecatur in D, & ſic latus A B tangens inſignitur, hypothenuſa verò B C ſecans arcus vel anguli C 38 gr. 20 min. nuncupatur: numeri lateris A B in tabulis ſub titulo tangentis ſe produnt 7906973, & ex ſecantis claſſe hypothenuſæ B C numeri emergunt: 12748344; & ſic iterum forma hujus trianguli pateſit, nempe: Si A C ſumitur 10000000 partium, tunc A B eſt 7906973, & B C 12748344 partium. *Vel*:



Sumpto ejuſdem trianguli crure A B pro radio ſeu 10000000 cum A C fiat Tangens, & B C Secans arcus A D

ſeu

ſeu anguli B 51 gr. 40 min. latus AC erit 12647060, & BC 16122905 partium.

Et cum ſæpiſſimè inter operandum accidat, ut duo ſinus ſimul inquirendi ſint, cujus anguli ſibi additi 90 gradus ſeu angulum rectum conficiunt, illi ut inquirenti laborem minuant, in una eademque ſe offerunt ſub ſuis titulis facie; idem etiam Tangentes & Secantes faciunt, ſic ut ſemiſſis tabularum nempe ab uno min. ad 45 gr. à principio tabularum incipiendo inquirendi ſint, deſcendendo à ſuperiore tabulæ linea verſus inferiorem, & tum à 45 uſque ad 90 gr. retrogrado ordine, & aſcendendo inveſtigandi ſint.

Numeri autem noſtrarum tabularum 10000000 partes pro ſuo radio agnoſcunt, & inde deducti ſunt, qui certe maximis diſtantiis,

ſtantiis, & locis inacceſſis, (qualia ſunt ſtagna, ſylvæ & paluſtria, & quæ primam capacitatem habeant, oculorum radii quouſque penetrare & ſe effundere poterunt) accuratè dimetiendis ſufficiunt.

Inutiles autem hæ noſtræ tabulæ forſan videbuntur, cum & illæ jam à multis noſtris anteceſſoribus editæ ſint: Sed cum ego nondum inciderim in aliquas, niſi quæ multis mendis refertæ & imperfectæ fuerint. multum autem referat, has tabulas quam correctiſſimas eſſe, ut quilibet illis fidem adhibere poſſit, ego illas mendis, quibus ſcatebant, magno certe labore, per differentias ſuas corrigendo, in uſum privatum purgavi: ita ut illas jam omnibus vacare vitiis certiſſimè ſpondere poſſim. Quapropter amicorum precibus, quibus ſubindè ſolli-

ſollicitabar, hoc dedi; ut typis mandarentur, & quidem quam correctiſſimè; ita ut illarum fidei nihil omninò derogandum putem:

Ad finem autem jam breviſſimam triangulorum planorum Trigonometriam, fundamentum nempe illud dimenſionum omnium inacceſſibilium diſtantiarum & figurarum rectilinearum adjeci, reliqua in aliud tempus differam; cum de hac re plura in lucem emittere animus ſit.

Sequuntur Tabulæ.

CANON

CANON

SINVVM, TANGENTIVM ET SECANTIVM.

Ad Radium

10000000.

0	Sinus	Tangens	Secans
0	0	0	100000.00
1	29.09	29.09	100000.00
2	58.18	58.18	100000.02
3	87.27	87.27	100000.04
4	116.36	116.36	100000.07
5	145.44	145.44	100000.11
6	174.53	174.53	100000.16
7	203.62	203.62	100000.21
8	232.71	232.71	100000.27
9	261.80	261.80	100000.34
10	290.89	290.89	100000.42
11	319.98	319.98	100000.51
12	349.06	349.07	100000.61
13	378.15	378.16	100000.72
14	407.24	407.25	100000.83
15	436.33	436.33	100000.95
16	465.42	465.42	100001.08
17	494.51	494.51	100001.22
18	523.60	523.60	100001.37
19	552.68	552.69	100001.53
20	581.77	581.78	100001.70
21	610.86	610.87	100001.87
22	639.95	639.96	100002.05
23	669.04	669.05	100002.24
24	698.13	698.14	100002.44
25	727.21	727.23	100002.65
26	756.30	756.32	100002.86
27	785.39	785.41	100003.08
28	814.48	814.50	100003.31
29	843.57	843.60	100003.55
30	872.65	872.69	100003.80

	Sinus	Tangens	Secans
60	10000.00	unendlich.	unendlich.
59	99999.99	343774667.38	343774681.93
58	99999.98	171887319.15	171887348.24
57	99999.96	114591529.94	114591573.57
56	99999.93	85943630.48	85943688.66
55	99999.89	68754886.93	68754959.66
54	99999.84	57295721.34	57295808.60
53	99999.79	49110600.28	49110702.09
52	99999.73	42971757.06	42971873.42
51	99999.66	38197099.08	38197229.98
50	99999.58	34377370.74	34377516.19
49	99999.49	31252136.71	31252296.70
48	99999.39	28647773.40	28647947.93
47	99999.28	26444079.88	26444268.95
46	99999.17	24555198.33	24555401.95
45	99999.05	22918166.36	22918384.53
44	99998.92	21485762.18	21485994.89
43	99998.78	20221874.99	20222122.25
42	99998.63	19098418.64	19098680.44
41	99998.47	18093219.83	18093496.17
40	99998.30	17188539.93	17188830.82
39	99998.13	16370019.10	16370324.53
38	99997.95	15625908.37	15626228.34
37	99997.76	14946502.08	14946836.60
36	99997.56	14323712.17	14324061.23
35	99997.35	13750744.68	13751108.29
34	99997.13	13221850.86	13222229.02
33	99996.91	12732133.65	12732526.35
32	99996.68	12277395.54	12277802.79
31	99996.44	11854018.02	11854439.81
30	99996.19	11458865.01	11459301.35

0	Sinus	Tangens	Secans
30	872.65	872.69	100003.80
31	901.74	901.78	100004.06
32	930.83	930.87	100004.33
33	959.92	959.96	100004.61
34	989.00	989.05	100004.89
35	1018.09	1018.14	100005.18
36	1047.18	1047.24	100005.48
37	1076.27	1076.33	100005.79
38	1105.35	1105.42	100006.11
39	1134.44	1134.51	100006.44
40	1163.53	1163.61	100006.77
41	1192.61	1192.70	100007.11
42	1221.70	1221.79	100007.46
43	1250.79	1250.88	100007.82
44	1279.87	1279.98	100008.19
45	1308.96	1309.07	100008.57
46	1338.05	1338.17	100008.96
47	1367.13	1367.26	100009.35
48	1396.22	1396.35	100009.75
49	1425.30	1425.45	100010.16
50	1454.39	1454.54	100010.58
51	1483.48	1483.64	100011.01
52	1512.56	1512.73	100011.45
53	1541.65	1541.83	100011.89
54	1570.73	1570.93	100012.34
55	1599.82	1600.02	100012.80
56	1628.90	1629.12	100013.27
57	1657.99	1658.21	100013.75
58	1687.07	1687.31	100014.24
59	1716.16	1716.41	100014.73
60	1745.24	1745.51	100015.23

	Sinus	*Tangens*	*Secans*
30	99996.19	11458865.01	11459301.35
29	99995.93	11089205.13	11089656.01
28	99995.66	10742648.38	10743113.80
27	99995.39	10417094.48	10417574.45
26	99995.11	10110690.24	10111184.75
25	99994.82	9821794.26	9822303.32
24	99994.52	9548947.52	9549471.12
23	99994.21	9290848.72	9291386.87
22	99993.89	9046333.57	9046886.26
21	99993.56	8814357.15	8814924.39
20	99993.23	8593979.07	8594560.86
19	99992.89	8384350.67	8384947.00
18	99992.54	8184704.11	8185314.98
17	99992.18	7994342.99	7994968.41
16	99991.81	7812634.20	7813274 16
15	99991.43	7639000.93	7639655.44
14	99991.04	7472916.51	7473585.56
13	99990.65	7313899.10	7314582.70
12	99990.25	7161507.01	7162205.15
11	99989.84	7015334.61	7016047.35
10	99989.42	6875008.72	6875735.95
9	99988.99	6740185.43	6740927.20
8	99988.55	6610547.27	6611303.59
7	99988.11	6485800.75	6486571.62
6	99987.66	6365674.12	6366459.53
5	99987.20	6249915.37	6250715.33
4	99986.73	6138290.52	6139105.02
3	99986.25	6030581.99	6031411.04
2	99985.76	5926587.21	5927430.81
1	99985.27	5826117.35	5826975.49
0	99984.77	5728996.16	5729868.85

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1	*Sinus*	*Tangens*	*Secans*
0	1745.24	1745.51	100015.23
1	1774.32	1774.60	100015.74
2	1803.41	1803.70	100016.26
3	1832.49	1832.80	100016.79
4	1861.58	1861.90	100017.33
5	1890.66	1891.00	100017.88
6	1919.74	1920.10	100018.43
7	1948.83	1949.20	100018.99
8	1977.91	1978.30	100019.56
9	2006.99	2007.40	100020.14
10	2036.08	2036.50	100020.73
11	2065.16	2065.60	100021.33
12	2094.24	2094.70	100021.94
13	2123.32	2123.80	100022.55
14	2152.41	2152.91	100023.17
15	2181.49	2182.01	100023.80
16	2210.57	2211.11	100024.44
17	2239.65	2240.21	100025.09
18	2268.73	2269.32	100025.75
19	2297.81	2298.42	100026.41
20	2326.90	2327.53	100027.08
21	2355.98	2356.63	100027.76
22	2385.06	2385.74	100028.45
23	2414.14	2414.84	100029.15
24	2443.22	2443.95	100029.86
25	2472.30	2473.05	100030.58
26	2501.38	2502.16	100031.30
27	2530.46	2531.27	100032.03
28	2559.54	2560.38	100032.77
29	2588.62	2589.48	100033.52
30	2617.69	2618.59	100034.28

	Sinus	*Tangens*	*Secans*
60	99984.77	5728996.16	5729868.85
59	99984.26	5635058.96	5635946.19
58	99983.74	5544151.67	5545053.45
57	99983.21	5456130.03	5457046.35
56	99982.67	5370858.75	5371789.62
55	99982.12	5288210.91	5289156.37
54	99981.57	5208067.26	5209027.22
53	99981.01	5130315.66	5131290.17
52	99980.44	5054850.59	5055839.65
51	99979.86	4981572.64	4982576.23
50	99979.27	4910388.06	4911406.20
49	99978.67	4841208.41	4842241.10
48	99978.06	4773950.14	4774997.38
47	99977.45	4708534.30	4709596.08
46	99976.83	4644886.20	4645962.53
45	99976.20	4582935.12	4584025.99
44	99975.56	4522614.07	4523719.49
43	99974.91	4463859.56	4464979.52
42	99974.25	4406611.32	4407745.83
41	99973.59	4350812.16	4351961.22
40	99972.92	4296407.73	4297571.34
39	99972.24	4243346.39	4244524.54
38	99971.55	4191578.99	4192771.68
37	99970.85	4141058.76	4142266.00
36	99970.14	4091741.16	4092962.95
35	99969.43	4043583.75	4044820.09
34	99968.71	3996546.05	3997796.94
33	99967.98	3950589.46	3951854.89
32	99967.24	3905677.11	3906957.09
31	99966.49	3861773.81	3863068.34
30	99965.73	3818845.93	3820155.00

[	Sinus	Tangens	Secans
0	2617.69	2618.59	100034.28
1	2646.77	2647.70	100035.05
2	2675.85	2676.84	100035.82
3	2704.93	2705.92	100036.60
4	2734.01	2735.03	100037.39
5	2763.09	2764.14	100038.19
6	2792.16	2793.25	100039.00
7	2821.24	2822.36	100039.82
8	2850.32	2851.48	100040.65
9	2879.40	2880.59	100041.48
0	2908.47	2909.70	100042.32
1	2937.55	2938.82	100043.17
2	2966.62	2967.93	100044.03
3	2995.70	2997.05	100044.90
4	3024.78	3026.16	100045.78
5	3053.85	3055.28	100046.67
6	3082.93	3084.39	100047.56
7	3112.00	3113.51	100048.46
8	3141.08	3142.63	100049.37
9	3170.15	3171.74	100050.29
0	3199.22	3200.86	100051.22
1	3228.30	3229.98	100052.15
2	3257.37	3259.10	100053.09
3	3286.44	3288.22	100054.05
4	3315.52	3317.34	100055.01
5	3344.59	3346.46	100055.98
6	3373.66	3375.58	100056.96
7	3402.73	3404.71	100057.95
8	3431.81	3433.83	100058.94
9	3460.88	3462.95	100059.94
0	3489.95	3492.08	100060.95

	Sinus	*Tangens*	*Secans*
30	99965.73	3818845.93	3820155.00
29	99964.96	3776861.30	3778184.92
28	99964.19	3735789.17	3737127.34
27	99963.41	3695600.11	3696952.82
26	99962.62	3656265.92	3657633.18
25	99961.82	3617759.62	3619141.43
24	99961.01	3580055.33	3581451.68
23	99960.19	3543128.25	3544539.15
22	99959.36	3506954.58	3508380.03
21	99958.53	3471511.50	3472951.50
20	99957.69	3436777.09	3438231.63
19	99956.84	3402730.29	3404199.39
18	99955.98	3369350.89	3370834.53
17	99955.11	3336619.45	3338117.63
16	99954.24	3304517.27	3306030.00
15	99953.36	3273026.37	3274553.65
14	99952.47	3242129.46	3243671.29
13	99951.57	3211809.88	3213366.26
12	99950.66	3182051.60	3183622.52
11	99949.74	3152839.16	3154424.63
10	99948.81	3124157.67	3125757.70
9	99947.88	3095992.80	3097607.37
8	99946.94	3068330.70	3069959.82
7	99945.99	3041158.02	3042801.69
6	99945.03	3014461.89	3016120.10
5	99944.06	2988229.86	2989902.63
4	99943.08	2962449.95	2964137.26
3	99942.09	2937110.55	2938812.41
2	99941.09	2912200.47	2913916.88
1	99940.09	2887708.88	2889439.84
0	99939.08	2863625.33	2865370.83
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2	*Sinus*	*Tangens*	*Secans*
0	3489.95	3492.08	100060.95
1	3519.02	3521.20	100061.97
2	3548.09	3550.33	100063.00
3	3577.16	3579.45	100064.04
4	3606.23	3608.58	100065.09
5	3635.30	3637.71	100066.15
6	3664.37	3666.83	100067.21
7	3693.44	3695.96	100068.28
8	3722.51	3725.09	100069.36
9	3751.58	3754.22	100070.45
10	3780.65	3783.35	100071.55
11	3809.71	3812.48	100072.66
12	3838.78	3841.61	100073.77
13	3867.85	3870.74	100074.89
14	3896.91	3899.88	100076.02
15	3925.98	3929.01	100077.16
16	3955.05	3958.14	100078.31
17	3984.11	3987.28	100079.47
18	4013.18	4016.41	100080.63
19	4042.24	4045.55	100081.80
20	4071.31	4074.69	100082.98
21	4100.37	4103.83	100084.17
22	4129.44	4132.96	100085.37
23	4158.50	4162.10	100086.58
24	4187.57	4191.24	100087.80
25	4216.63	4220.38	100089.02
26	4245.69	4249.52	100090.25
27	4274.75	4278.66	100091.49
28	4303.82	4307.81	100092.74
29	4332.88	4336.95	100094.00
30	4361.94	4366.09	100095.27

	Sinus	*Tangens*	*Secans*
60	99939.08	2853625.33	2865370.83
59	99938.06	2839939.69	2841699.74
58	99937.03	2816642.18	2818416.78
57	99935.99	2793723.33	2795512.48
56	99934.95	2771173.99	2772977.69
55	99933.90	2748985.28	2750803.53
54	99932.84	2727148.61	2728981.41
53	99931.77	2705655.68	2707503.03
52	99930.69	2684498.43	2686360.33
51	99929.60	2663669.04	2665545.49
50	99928.51	2643159.96	2645050.96
49	99927.40	2622963.84	2624869.39
48	99926.29	2603073.58	2604993.68
47	99925.17	2583482.27	2585416.92
46	99924.04	2564183.23	2566132.43
45	99922.90	2545169.96	2547133.71
44	99921.75	2526436.15	2528414.45
43	99920.60	2507975.68	2509968.53
42	99919.44	2489782.62	2491790.02
41	99918.27	2471851.19	2473873.14
40	99917.09	2454175.78	2456212.28
39	99915.90	2436750.95	2438802.00
38	99914.70	2419571.40	2421637.00
37	99913.49	2402631.99	2404712.14
36	99912.28	2385927.72	2388022.42
35	99911.06	2369453.72	2371562.97
34	99909.83	2353205.25	2355329.05
33	99908.59	2337177.72	2339316.07
32	99907.34	2321366.65	2323519.55
31	99906.08	2305767.67	2307935.13
30	99904.82	2290376.55	2292558.56
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2	Sinus	Tangens	Secans
30	4361.94	4366.09	100095.27
31	4391.00	4395.24	100096.55
32	4420.06	4424.38	100097.83
33	4449.12	4453.53	100099.12
34	4478.18	4482.68	100100.42
35	4507.24	4511.82	100101.73
36	4536.30	4540.97	100103.05
37	4565.36	4570.12	100104.38
38	4594.42	4599.27	100105.71
39	4623.47	4628.42	100107.05
40	4652.53	4657.57	100108.40
41	4681.59	4686.73	100109.76
42	4710.64	4715.88	100111.13
43	4739.70	4745.03	100112.51
44	4768.76	4774.19	100113.90
45	4797.81	4803.34	100115.30
46	4826.87	4832.50	100116.70
47	4855.92	4861.66	100118.11
48	4884.98	4890.82	100119.53
49	4914.03	4919.97	100120.96
50	4943.08	4949.13	100122.40
51	4972.14	4978.29	100123.85
52	5001.19	5007.46	100125.30
53	5030.24	5036.62	100126.76
54	5059.29	5065.78	100128.23
55	5088.35	5094.95	100129.71
56	5117.40	5124.11	100131.20
57	5146.45	5153.28	100132.70
58	5175.50	5182.44	100134.20
59	5204.55	5211.61	100135.71
60	5233.60	5240.78	100137.23

	Sinus	Tangens	Secans
30	99904.82	2290376.55	2292558.56
29	99903.55	2275189.16	2277385.72
28	99902.27	2260201.48	2262412.59
27	99900.98	2245409.59	2247635.25
26	99899.68	2230809.67	2233049.89
25	99898.37	2216398.02	2218652.78
24	99897.05	2202171.00	2204440.32
23	99895.73	2188125.10	2190408.97
22	99894.40	2174256.87	2176555.29
21	99893.06	2160562.96	2162875.93
20	99891.71	2147040.10	2149367.63
19	99890.35	2133685.11	2136027.19
18	99888.98	2120494.88	2122851.51
17	99887.61	2107466.37	2109837.55
16	99886.23	2094596.63	2096982.36
15	99884.84	2081882.76	2084283.05
14	99883.44	2069321.96	2071736.80
13	99882.03	2056911.47	2059340.86
12	99880.61	2044648.61	2047092.55
11	99879.18	2032530.75	2034989.25
10	99877.75	2020555.35	2023028.40
9	99876.31	2008719.89	2011207.50
8	99874.86	1997021.95	1999524.11
7	99873.40	1985459.12	1987975.84
6	99871.93	1974029.10	1976560.36
5	99870.45	1962729.59	1965275.41
4	99868.97	1951558.37	1954118.74
3	99867.48	1940513.27	1943088.20
2	99865.98	1929592.17	1932181.65
1	99864.47	1918792 98	1921397.01
0	99862.95	1908113.67	1910732.26

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3	*Sinus*	*Tangens*	*Secans*
0	5233.60	5240.78	100137.23
1	5262.64	5269.95	100138.76
2	5291.69	5299.12	100140.30
3	5320.74	5328.29	100141.85
4	5349.79	5357.46	100143.41
5	5378.83	5386.63	100144.98
6	5407.88	5415.81	100146.55
7	5436.93	5444.98	100148.13
8	5465.97	5474.16	100149.72
9	5495.02	5503.33	100151.32
10	5524.06	5532.51	100152.93
11	5553.11	5561.69	100154.55
12	5582.15	5590.87	100156.17
13	5611.19	5620.05	100157.80
14	5640.24	5649.23	100159.44
15	5669.28	5678.41	100161.09
16	5698.32	5707.59	100162.75
17	5727.36	5736.78	100164.42
18	5756.40	5765.96	100166.10
19	5785.44	5795.15	100167.78
20	5814.48	5824.34	100169.47
21	5843.52	5853.52	100171.17
22	5872.56	5832.71	100172.88
23	5901.60	5911.90	100174.60
24	5930.64	5941.09	100176.33
25	5959.67	5970.29	100178.07
26	5988.71	5999.48	100179.81
27	6017.75	6028.67	100181.56
28	6046.78	6057.87	100183.32
29	6075.82	6087.06	100185.09
30	6104.85	6116.26	100186.87

	Sinus	Tangens	Secans
60	99862.95	1908113.67	[illegible]10732.26
59	99861.42	1897552.26	1900185.40
58	99859.89	1887106.80	1889754.50
57	99858.35	1876775.39	1879437.65
56	99856.80	1866556.18	1869232.99
55	99855.24	1856447.34	1859138.71
54	99853.67	1846447.09	1849153.01
53	99852.09	1836553.70	1839274.17
52	99850.50	1826765.44	1829500.48
51	99848.91	1817080.67	1819830.26
50	99847.31	1807497.74	1810261.88
49	99845.70	1798015.05	1800793.75
48	99844 08	1788631.04	1791424.29
47	99842.45	1779344.17	1782151.98
46	99840.81	1770152.94	1772975.31
45	99839.16	1761055.88	1763892.80
44	99837.51	1752051.55	1754903.03
43	99835.85	1743138.54	1746004.57
42	99834.18	1734315.46	1737196.05
41	99832.50	1725580.95	1728476.10
40	99830.81	1716933.69	1719843.40
39	99829.11	1708372.38	1711296.64
38	99827.41	1699895.74	1702834.56
37	99825.70	1691502.51	1694455.89
36	99823.98	1683191.48	1686159.41
35	99822.25	1674961.44	1677943.92
34	99820.51	1666811.20	1669808.25
33	99818.76	1658739.62	1661751.22
32	99817.01	1650745.55	1653771.71
31	99815.25	1642827.89	1645868.61
30	99813.48	1634985.55	1638040.82

3	*Sinus*	*Tangens*	*Secans*
30	6104.85	6116.26	100186.87
31	6133.89	6145.46	100188.66
32	6162.92	6174.66	100190.46
33	6191.96	6203.86	100192.26
34	6220.99	6233.06	100194.07
35	6250.02	6262.26	100195.89
36	6279.05	6291.47	100197.72
37	6308.08	6320.67	100199.56
38	6337.11	6349.88	100201.41
39	6366.14	6379.08	100203.26
40	6395.17	6408.29	100205.12
41	6424.20	6437.50	100206.99
42	6453.23	6466.71	100208.87
43	6482.26	6495.92	100210.76
44	6511.29	6525.13	100212.66
45	6540.31	6554.35	100214.57
46	6569.34	6583.56	100216.49
47	6598.36	6612.78	100218.41
48	6627.39	6641.99	100220.34
49	6656.41	6671.21	100222.28
50	6685.44	6700.43	100224.23
51	6714.46	6729.65	100226.19
52	6743.48	6758.87	100228.16
53	6772.51	6788.09	100230.13
54	6801.53	6817.32	100232.11
55	6830.55	6846.54	100234.10
56	6859.57	6875.77	100236.10
57	6888.59	6904.99	100238.11
58	6917.61	6934.22	100240.13
59	6946.63	6963.45	100242.16
60	6975.65	6992.68	100244.19

	Sinus	Tangens	Secans
30	99813.48	1634985.55	1638040.82
29	99811.70	1627217.44	1630287.28
28	99809 91	1619522.53	1622606.93
27	99808.11	1611899.79	1614998.74
26	99806.30	1604348.19	1607461.70
25	99804.49	1596866.74	1599994.81
24	99802.67	1589454.48	1592597.11
23	99800.84	1582110.45	1585267.64
22	99799.00	1574833.71	1578005.45
21	99797.15	1567623.33	1570809.63
20	99795.29	1560478.41	1563679.27
19	99793.43	1553398.06	1556613.48
18	99791.56	1546381.41	1549611.39
17	99789.68	1539427.60	1542672.15
16	99787.79	1532535.80	1535794.90
15	99785.89	1525705.17	1528978.83
14	99783.98	1518934.90	1522223.12
13	99782.06	1512224.20	1515526.98
12	99780.14	1505572.27	1508889.61
11	99778.21	1498978.36	1502310.26
10	99776.27	1492441.70	1495788.16
9	99774.32	1485961.55	1489322.58
8	99772.36	1479537.18	1482912.77
7	99770.39	1473167.87	1476558.02
6	99768.42	1466852.92	1470257.63
5	99766.44	1460591.63	1464010.90
4	99764.45	1454383.32	1457817.15
3	99762.45	1448227.32	1451676.71
2	99760.44	1442122.97	1445585.92
1	99758.42	1436069.61	1439547.13
0	99756.40	1430066.63	1433558.70
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4	*Sinus*	*Tangens*	*Secans*
0	6975.65	6992.68	100244.19
1	7004.66	7021.91	100246.23
2	7033.68	7051.15	100248.28
3	7062.70	7080.38	100250.34
4	7091.71	7109.61	100252.41
5	7120.73	7138.85	100254.49
6	7149.74	7168.09	100256.58
7	7178.76	7197.33	100258.68
8	7207.77	7226.57	100260.78
9	7236.78	7255.81	100262.89
10	7265.80	7285.05	100265.01
11	7294.81	7314.30	100267.14
12	7323.82	7343.54	100269.28
13	7352.83	7372.79	100271.43
14	7381.84	7402.03	100273.58
15	7410.85	7431.28	100275.74
16	7439.86	7460.53	100277.91
17	7468.87	7489.79	100280.09
18	7497.87	7519.04	100282.28
19	7526.88	7548.29	100284.48
20	7555.89	7577.55	100286.68
21	7584.89	7606.80	100288.89
22	7613.90	7636.06	100291.11
23	7642.90	7665.32	100293.34
24	7671.90	7694.58	100295.58
25	7700.91	7723.84	100297.83
26	7729.91	7753.11	100300.09
27	7758.91	7782.37	100302.36
28	7787.91	7811.64	100304.64
29	7816.91	7840.90	100306.93
30	7845.91	7870.17	100309.22

	Sinus	Tangens	Secans
60	99756.40	1430066.63	1433558.70
59	99754.37	1424113.37	1427620.01
58	99752.33	1418209.24	1421730.45
57	99750.28	1412353.63	1415889.39
56	99748.22	1406545.93	1410096.25
55	99746.15	1400785.56	1404350.45
54	99744.07	1395071.94	1398651.39
53	99741.99	1389404.51	1392998.52
52	99739.90	1383782.70	1387391.28
51	99737.80	1378205.98	1381829.12
50	99735.69	1372673.79	1376311.49
49	99733.57	1367185.60	1370837.87
48	99731.44	1361740.89	1365407.72
47	99729.31	1356339.15	1360020.54
46	99727.17	1350979.86	1354675.82
45	99725.02	1345662.53	1349373.06
44	99722.86	1340386.67	1344111.76
43	99720.69	1335151.79	1338891.44
42	99718.51	1329957.41	1333711.63
41	99716.32	1324803.07	1328571.86
40	99714.13	1319688.30	1323471.65
39	99711.93	1314612.66	1318410.57
38	99709.72	1309575.68	1313388.16
37	99707.50	1304576.93	1308403.98
36	99705.27	1299615.98	1303457.60
35	99703.03	1294692.40	1298548.58
34	99700.79	1289805.77	1293676.51
33	99698.54	1284955.66	1288840.97
32	99696.28	1280141.68	1284041.55
31	99694.01	1275363.41	1279277.86
30	99691.73	1270620.47	1274549.48

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4	*Sinus*	*Tangens*	*Secans*
30	7845.91	7870.17	100309.22
31	7874.91	7899.44	100311.52
32	7903.91	7928.71	100313.83
33	7932.90	7957.98	100316.15
34	7961.90	7987.26	100318.48
35	7990.90	8016.53	100320.81
36	8019.89	8045.81	100323.15
37	8048.89	8075.09	100325.50
38	8077.88	8104.37	100327.86
39	8106.87	8133.65	100330.23
40	8135.87	8162.93	100332.61
41	8164.86	8192.21	100335.00
42	8193.85	8221.50	100337.40
43	8222.84	8250.78	100339.80
44	8251.83	8280.07	100342.21
45	8280.82	8309.36	100344.63
46	8309.81	8338.65	100347.06
47	8338.80	8367.94	100349.50
48	8367.78	8397.23	100351.95
49	8396.77	8426.53	100354.41
50	8425.76	8455.83	100356.87
51	8454.74	8485.12	100359.34
52	8483.73	8514.42	100361.82
53	8512.71	8543.72	100364.31
54	8541.69	8573.02	100366.81
55	8570.67	8602.33	100369.32
56	8599.66	8631.63	100371.84
57	8628.64	8660.94	100374.36
58	8657.62	8690.25	100376.89
59	8686.60	8719.56	100379.43
60	8715.57	8748.87	100381.98

	Sinus	*Tangens*	*Secans*
30	99691.73	1270620.47	1274541.48
29	99689.44	1265912.45	1269856.04
28	99687.15	1261239.00	1265197.15
27	99684.85	1256599.71	1260572.42
26	99682.54	1251994.20	1255981.48
25	99680.22	1247422.12	1251423.97
24	99677.89	1242883.10	1246899.52
23	99675.55	1238376.79	1242407.77
22	99673.20	1233902.82	1237948.37
21	99670.85	1229460.85	1233520.97
20	99668.49	1225050.55	1229125.23
19	99666.12	1220671.56	1224760.82
18	99663.74	1216323.56	1220427.39
17	99661.35	1212006.22	1216124.62
16	99658.95	1207719.22	1211852.18
15	99656.55	1203462.23	1207609.76
14	99654.14	1199234.95	1203397.05
13	99651.72	1195037.05	1199213.72
12	99649.29	1190868.24	1195059.48
11	99646.85	1186728.21	1190934.02
10	99644.40	1182616.67	1186837.05
9	99641.94	1178533.31	1182768.27
8	99639.48	1174477.86	1178727.39
7	99637.01	1170450.03	1174714.12
6	99634.53	1166449.53	1170728.19
5	99632.04	1162476.08	1166769.32
4	99629.54	1158529.42	1162837.23
3	99627.03	1154609.27	1158931.65
2	99624.52	1150715.36	1155052.31
1	99622.00	1146847.43	1151198.96
0	99619.47	1143005.23	1147371.32

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5	Sinus	Tangens	Secans
0	8715.57	8748.87	100381.98
1	8744.55	8778.18	100384.54
2	8773.53	8807.49	100387.11
3	8802.51	8836.81	100389.69
4	8831.48	8866.12	100392.28
5	8860.46	8895.44	100394.87
6	8889.43	8924.76	100397.47
7	8918.40	8954.08	100400.08
8	8947.38	8983.41	100402.70
9	8976.35	9012.73	100405.33
10	9005.32	9042.06	100407.97
11	9034.29	9071.38	100410.61
12	9063.26	9100.71	100413.26
13	9092.23	9130.04	100415.92
14	9121.19	9159.38	100418.59
15	9150.16	9188.71	100421.27
16	9179.13	9218.04	100423.96
17	9208.09	9247.38	100426.66
18	9237.06	9276.72	100429.37
19	9266.02	9306.06	100432.08
20	9294.99	9335.40	100434.80
21	9323.95	9364.74	100437.53
22	9352.91	9394.09	100440.27
23	9381.87	9423.44	100443.02
24	9410.83	9452.78	100445.78
25	9439.79	9482.13	100448.55
26	9468.75	9511.48	100451.33
27	9497.71	9540.84	100454.11
28	9526.66	9570.19	100456.90
29	9555.62	9599.55	100459.70
30	9584.58	9628.90	100462.51

	Sinus	Tangens	Secans
60	99619.47	1143005.23	1147371.32
59	99616.93	1139188.49	1143569.16
58	99614.38	1135396.96	1139792.20
57	99611.82	1131630.40	1136040.21
56	99609.26	1127888.55	1132312.93
55	99606.69	1124171.17	1128610.13
54	99604.11	1120478.03	1124931.56
53	99601.52	1116808.88	1121276.99
52	99598.92	1113163.50	1117646.17
51	99596.31	1109541.64	1114038.90
50	99593.69	1105943.10	1110454.92
49	99591.07	1102367.63	1106894.03
48	99588.44	1098815.01	1103355.99
47	99585.80	1095285.04	1099840.59
46	99583.15	1091777.49	1096347.61
45	99580.49	1088292.14	1092876.84
44	99577.82	1084828.80	1089428.07
43	99575.15	1081387.24	1086001.09
42	99572.47	1077967.27	1082595.69
41	99569.78	1074568.68	1079211.68
40	99567.08	1071191.26	1075848.84
39	99564.37	1067834.84	1072506.99
38	99561.65	1064499.19	1069185.92
37	99558.92	1061184.14	1065885.45
36	99556.19	1057889.50	1062605.38
35	99553.45	1054615.07	1059345.53
34	99550.70	1051360.67	1056105.70
33	99547.94	1048126.11	1052885.72
32	99545.17	1044911.22	1049685.41
31	99542.40	1041715.81	1046504.58
30	99539.62	1038539.71	1043343.05

5	Sinus	Tangens	Secans
30	9584.58	9628.90	100462.51
31	9613.53	9658.26	100465.33
32	9642.48	9687.63	100468.16
33	9671.44	9716.99	100470 99
34	9700.39	9746.35	100473.83
35	9729.34	9775.72	100476.68
36	9758.29	9805.09	100479.54
37	9787.24	9834.46	100482.41
38	9816.19	9863.83	100485.29
39	9845.14	9893.20	100488.18
40	9874.08	9922.57	100491.08
41	9903.03	9951.95	100493.99
42	9931.97	9981.33	100496.90
43	9960.92	10010.71	100499.82
44	9989.86	10040.09	100502.75
45	10018.81	10069.47	100505.69
46	10047.75	10098.85	100508.64
47	10076.69	10128.24	100511.60
48	10105.63	10157.63	100514.57
49	10134.57	10187.02	100517.54
50	10163.51	10216.41	100520.52
51	10192.45	10245.80	100523.51
52	10221.38	10275.20	100526.51
53	10250.32	10304.60	100529.52
54	10279.25	10334.00	100532.54
55	10308.19	10363.40	100535.57
56	10337.12	10392.80	100538.60
57	10366.05	10422.20	100541.64
58	10394.99	10451.60	100544.69
59	10423.92	10481.01	100547.75
60	10452.85	10510.42	100550.82

	Sinus	Tangens	Secans
30	99539.62	1038539.71	1043343.05
29	99536.83	1035382.74	1040200.66
28	99534.03	1032244.73	1037077.23
27	99531.22	1029125.51	1033972.59
26	99528.40	1026024.90	1030886.56
25	99525.57	1022942.76	1027818.99
24	99522.74	1019878.90	1024769.71
23	99519.90	1016833.16	1021738.55
22	99517.05	1013805.39	1018725.36
21	99514.19	1010795.42	1015729.98
20	99511.32	1007803.11	1012752.24
19	99508.44	1004828.28	1009792.00
18	99505.55	1001870.80	1006849.09
17	99502.66	998930.50	1003923.38
16	99499.76	996007.24	1001014.70
15	99496.85	993100.88	998122.91
14	99493.93	990211.25	995247.87
13	99491.00	987338.23	992389.43
12	99488.06	984481.66	989547.44
11	99485.12	981641.40	986721.76
10	99482.17	978817.32	983912.27
9	99479.21	976009.27	981118.80
8	99476.24	973217.13	978341.24
7	99473.26	970440.75	975579.44
6	99470.27	967680.00	972833.27
5	99467.28	964934.75	970102.60
4	99464.28	962204.86	967387.30
3	99461.27	959490.22	964687.24
2	99458.25	956790.68	962002.29
1	99455.22	954106.13	959332.33
0	99452.18	951436.45	956677.22

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6	Sinus	Tangens	Secans
0	10452.85	10510.42	100550.82
1	10481.78	10539.83	100553.90
2	10510.70	10569.24	100556.99
3	10539.63	10598.66	100560.09
4	10568.56	10628.08	100563.20
5	10597.48	10657.50	100566.31
6	10626.41	10686.92	100569.43
7	10655.33	10716.34	100572.56
8	10684.25	10745.76	100575.70
9	10713.18	10775.19	100578.85
10	10742.10	10804.62	100582.01
11	10771.02	10834.05	100585.18
12	10799.94	10863.48	100588.35
13	10828.85	10892.91	100591.53
14	10857.77	10922.34	100594.72
15	10886.69	10951.78	100597.92
16	10915.60	10981.22	100601.13
17	10944.52	11010.66	100604.35
18	10973.43	11040.10	100607.58
19	11002.34	11069.54	100610.81
20	11031.26	11098.99	100614.05
21	11060.17	11128.44	100617.30
22	11089.08	11157.89	100620.56
23	11117.99	11187.34	100623.83
24	11146.89	11216.79	100627.11
25	11175.80	11246.25	100630.40
26	11204.71	11275.71	100633.70
27	11233.61	11305.17	100637.01
28	11262.52	11334.63	100640.32
29	11291.42	11364.09	100643.64
30	11320.32	11393.56	100646.97

	Sinus	Tangens	Secans
60	99452.18	951436.45	956677.22
59	99449.14	948781.49	954036.86
58	99446.09	946141.16	951411.10
57	99443.03	943515.31	948799.84
56	99439.96	940903.84	946202.96
55	99436.88	938306.63	943620.33
54	99433.79	935723.55	941051.84
53	99430.69	933154.50	938497.38
52	99427.59	930599.36	935956.82
51	99424.48	928058.02	933430.06
50	99421.36	925530.35	930916.99
49	99418.23	923016.27	928417.49
48	99415.09	920515.64	925931.45
47	99411.94	918028.38	923458.77
46	99408.79	915554.36	920999.34
45	99405.63	913093.48	918553.05
44	99402.46	910645.64	916119.80
43	99399.28	908210.74	913699.49
42	99396.09	905788.67	911292.00
41	99392.89	903379.33	908897.25
40	99389.69	900982.61	906515.12
39	99386.48	898598.43	904145.53
38	99383.26	896226.68	901788.37
37	99380.03	893867.26	899443.54
36	99376.79	891520.08	897110.95
35	99373.54	889185.05	894790.51
34	99370.28	886862.06	892482.11
33	99367.02	884551.03	890185.67
32	99363.75	882251.86	887901.09
31	99360.47	879964.46	885628.28
30	99357.18	877688.74	883367.15

6	Sinus	Tangens	Secans
30	11320.32	11393.56	100646.97
31	11349.22	11423.03	100650.31
32	11378.12	11452.50	100653.66
33	11407.02	11481.97	100657.02
34	11435.92	11511.44	100660.39
35	11464.82	11540.91	100663.77
36	11493.71	11570.39	100667.15
37	11522.61	11599.87	100670.54
38	11551.51	11629.35	100673.94
39	11580.40	11658.83	100677.35
40	11609.29	11688.31	100680.77
41	11638.18	11717.80	100684.20
42	11667.07	11747.29	100687.64
43	11695.96	11776.78	100691.08
44	11724.85	11806.28	100694.53
45	11753.74	11835.78	100697.99
46	11782.63	11865.28	100701.46
47	11811.51	11894.78	100704.94
48	11840.40	11924.28	100708.43
49	11869.28	11953.78	100711.93
50	11898.16	11983.28	100715.44
51	11927.04	12012.79	100718.96
52	11955.93	12042.30	100722.48
53	11984.81	12071.81	100726.01
54	12013.68	12101.32	100729.55
55	12042.56	12130.84	100733.10
56	12071.44	12160.36	100736.66
57	12100.31	12189.88	100740.23
58	12129.19	12219.40	100743.81
59	12158.06	12248.93	100747.40
60	12186.93	12278.46	100750.99

	Sinus	*Tangens*	*Secans*
30	99357.18	877688.74	883367.15
29	99353.88	875424.61	881117.61
28	99350.58	873171.98	878879.57
27	99347.27	870930.77	876652.95
26	99343.95	868700.88	874437.66
25	99340.62	866482.23	872233.61
24	99337.28	864274.75	870040.71
23	99333.93	862078.33	867858.89
22	99330.57	859892.90	865688.05
21	99327.20	857718.38	863528.12
20	99323.83	855554.68	861379.01
19	99320.45	853401.72	859240.65
18	99317.06	851259.43	857112.95
17	99313.66	849127.72	854995.84
16	99310.25	847006.51	852889.23
15	99306.84	844895.73	850793.04
14	99303.42	842795.31	848707.21
13	99299.99	840705.15	846631.65
12	99296.55	838625.19	844566.29
11	99293.10	836555.36	842511.05
10	99289.64	834495.57	840465.86
9	99286.17	832445.77	838430.65
8	99282.70	830405.86	836405.34
7	99279.22	828375.79	834389.86
6	99275.73	826355.47	832384.15
5	99272.23	824344.85	830388.12
4	99268.72	822343.84	828401.71
3	99265.21	820352.39	826424.85
2	99261.69	818370.41	824457.48
1	99258.16	816397.86	822499.52
0	99254.62	814434.64	820550.90
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7	*Sinus*	*Tangens*	*Secans*
0	12186.93	12278.46	100750.99
1	12215.81	12307.99	100754.59
2	12244.68	12337.52	100758.20
3	12273.55	12367.05	100761.82
4	12302.41	12396.58	100765.45
5	12331.28	12426.12	100769.09
6	12360.15	12455.66	100772.74
7	12389.01	12485.20	100776.39
8	12417.88	12514.74	100780.05
9	12446.74	12544.29	100783.72
10	12475.60	12573.84	100787.40
11	12504.46	12603.39	100791.09
12	12533.32	12632.94	100794.79
13	12562.18	12662.49	100798.50
14	12591.04	12692.05	100802.22
15	12619.90	12721.61	100805.95
16	12648.75	12751.17	100809.69
17	12677.61	12780.73	100813.43
18	12706.46	12810.29	100817.18
19	12735.31	12839.86	100820.94
20	12764.16	12869.43	100824.71
21	12793.01	12899.00	100828.49
22	12821.86	12928.57	100832.28
23	12850.71	12958.15	100836.07
24	12879.56	12987.73	100839.88
25	12908.41	13017.31	100843.70
26	12937.25	13046.89	100847.52
27	12966.09	13076.48	100851.35
28	12994.94	13106.07	100855.19
29	13023.78	13135.66	100859.04
30	13052.62	13165.25	100862.90

	Sinus	Tangens	Secans
60	99254.62	814434.64	820550.90
59	99251.07	812480.71	818611.57
58	99247.51	810535.99	816681.45
57	99243.94	808600.42	814760.48
56	99240.36	806673.94	812848.60
55	99236.78	804756.47	810945.73
54	99233.19	802847.96	809051.82
53	99229.59	800948.35	807166.81
52	99225.98	799057.56	805290.62
51	99222.36	797175.55	803423.21
50	99218.74	795302.24	801564.50
49	99215.11	793437.58	799714.45
48	99211.47	791581.51	797872.98
47	99207.82	789733.96	796040.03
46	99204.16	787894.89	794215.56
45	99200.49	786064.23	792399.50
44	99196.81	784241.91	790591.79
43	99193.13	782427.90	788792.38
42	99189.44	780622.12	787001.20
41	99185.74	778824.53	785218.21
40	99182.03	777035.06	783443.35
39	99178.31	775253.66	781676.56
38	99174.59	773480.28	779917.78
37	99170.86	771714.86	778166.97
36	99167.12	769957.35	776424.06
35	99163.37	768207.69	774689.01
34	99159.61	766465.84	772961.76
33	99155.84	764731.74	771242.27
32	99152.06	763005.33	769530.47
31	99148.28	761286.57	767826.31
30	99144.49	759575.41	766129.76
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7	*Sinus*	*Tangens*	*Secans*
30	13052.62	13165.25	100862.90
31	13081.46	13194.84	100866.77
32	13110.30	13224.44	100870.65
33	13139.13	13254.04	100874.53
34	13167.97	13283.64	100878.42
35	13196.81	13313.24	100882.32
36	13225.64	13342.85	100886.23
37	13254.47	13372.46	100890.15
38	13283.30	13402.07	100894.08
39	13312.13	13431.68	100898.02
40	13340.96	13461.29	100901.97
41	13369.79	13490.91	100905.92
42	13398.62	13520.53	100909.88
43	13427.44	13550.15	100913.85
44	13456.27	13579.77	100917.83
45	13485.09	13609.40	100921.82
46	13513.92	13639.03	100925.82
47	13542.74	13668.66	100929.83
48	13571.56	13698.29	100933.85
49	13600.38	13727.93	100937.88
50	13629.19	13757.57	100941.92
51	13658.01	13787.21	100945.96
52	13686.83	13816.85	100950.01
53	13715.64	13846.50	100954.07
54	13744.45	13876.15	100958.14
55	13773.27	13905.80	100962.22
56	13802.08	13935.45	100966.31
57	13830.89	13965.10	100970.41
58	13859.70	13994.76	100974.52
59	13888.50	14024.42	100978.64
60	13917.31	14054.08	100982.76

	Sinus	Tangens	Secans
30	99144.49	759575.41	766129.76
29	99140.69	757871.79	764440.75
28	99136.88	756175.67	762759.23
27	99133.06	754486.99	761085.16
26	99129.23	752805.71	759418.49
25	99125.39	751131.78	757759.16
24	99121.55	749465.14	756107.13
23	99117.70	747805.76	754462.36
22	99113.84	746153.57	752824.78
21	99109.97	744508.55	751194.37
20	99106.09	742870.64	749571.06
19	99102.21	741239.78	747954.82
18	99098.32	739615.95	746345.60
17	99094.42	737999.09	744743.35
16	99090.51	736389.16	743148.03
15	99086.59	734786.10	741559.59
14	99082.66	733189.89	739977.98
13	99078.72	731600.47	738403.18
12	99074.78	730017.80	736835.12
11	99070.83	728441.84	735273.77
10	99066.87	726872.55	733719.09
9	99062.90	725309.87	732171 02
8	99058.92	723753.78	730629.54
7	99054.93	722204.22	729094.60
6	99050.94	720661.16	727566.16
5	99046.94	719124.56	726044.17
4	99042.93	717594.37	724528.59
3	99038.91	716070.56	723019.40
2	99034.88	714553.08	721516.53
1	99030.84	713041.90	720019.96
0	99026.80	711536.97	718529.65

8	*Sinus*	*Tangens*	*Secans*
0	13917.31	14054.08	100982.76
1	13946.12	14083.74	100986.89
2	13974.92	14113.41	100991.03
3	14003.72	14143.08	100995.18
4	14032.52	14172.75	100999.34
5	14061.32	14202.43	101003.51
6	14090.12	14232.11	101007.69
7	14118.92	14261.79	101011.88
8	14147.72	14291.47	101016.07
9	14176.51	14321.15	101020.27
10	14205.31	14350.84	101024.48
11	14234.10	14380.53	101028.70
12	14262.89	14410.22	101032.93
13	14291.68	14439.91	101037.17
14	14320.47	14469.61	101041.42
15	14349.26	14499.31	101045.68
16	14378.05	14529.01	101049.95
17	14406.84	14558.71	101054.23
18	14435.62	14588.42	101058.51
19	14464.40	14618.13	101062.80
20	14493.19	14647.84	101067.10
21	14521.97	14677.55	101071.41
22	14550.75	14707.27	101075.73
23	14579.53	14736.99	101080.06
24	14608.30	14766.71	101084.40
25	14637.08	14796.44	101088.75
26	14665.85	14826.17	101093.11
27	14694.63	14855.90	101097.47
28	14723.40	14885.63	101101.84
29	14752.17	14915.36	101106.22
30	14780.94	14945.10	101110.61

	Sinus	*Tangens*	*Secans*
60	99026.80	711536.97	718529.65
59	99022.75	710038.26	717045.56
58	99018.69	708545.73	715567.64
57	99014.62	707059.34	714095.87
56	99010.54	705579.05	712630.19
55	99006.45	704104.82	711170.58
54	99002.36	702636.62	709717.00
53	98998.26	701174.41	708269.41
52	98994.15	699718.06	706827.77
51	98990.03	698267.81	705392.05
50	98985.90	696823.35	703962.20
49	98981.76	695384.73	702538.20
48	98977.62	693951.92	701120.01
47	98973.47	692524.89	699707.60
46	98969.31	691103.59	698300.92
45	98965.14	689687.99	696899.94
44	98960.96	688278.07	695504.64
43	98956.77	686873.78	694114.96
42	98952.57	685475.08	692730.89
41	98948.37	684081.96	691352.39
40	98944.16	682694.37	689979.42
39	98939.94	681312.27	688611.95
38	98935.71	679935.65	687249.95
37	98931.47	678564.46	685893.38
36	98927.23	677198.67	684542.22
35	98922.98	675838.26	683196.42
34	98918.72	674483.18	681855.97
33	98914.45	673133.41	680520.82
32	98910.17	671788.91	679190.95
31	98905.88	670449.66	677866.32
30	98901.58	669115.62	676546.91

8	*Sinus*	*Tangens*	*Secans*
30	14780.94	14945.10	101110.61
31	14809.71	14974.84	101115.01
32	14838.48	15004.58	101119.42
33	14867.24	15034.33	101123.84
34	14896.01	15064.08	101128.27
35	14924.77	15093.83	101132.71
36	14953.53	15123.58	101137.15
37	14982.30	15153.33	101141.60
38	15011.06	15183.09	101146.06
39	15039.81	15212.85	101150.53
40	15068.57	15242.61	101155.01
41	15097.33	15272.38	101159.50
42	15126.08	15302.15	101164.00
43	15154.84	15331.92	101168.51
44	15183.59	15361.89	101173.03
45	15212.34	15391.47	101177.56
46	15241.09	15421.25	101182.09
47	15269.84	15451.03	101186.63
48	15298.58	15480.82	101191.18
49	15327.33	15510.61	101195.74
50	15356.07	15540.40	101200.31
51	15384.82	15570.19	101204.89
52	15413.56	15599.98	101209.48
53	15442.30	15629.78	101214.08
54	15471.04	15659.58	101218.69
55	15499.78	15689.38	101223.31
56	15528.51	15719.19	101227.93
57	15557.25	15749.00	101232.56
58	15585.98	15778.81	101237.20
59	15614.72	15808.62	101241.85
60	15643.45	15838.44	101246.51

	Sinus	*Tangens*	*Secans*
0	98901.58	669115.62	676546.91
9	98897.28	667786.77	675232.68
8	98892.97	666463.07	673923.60
7	98888.65	665144.49	672619.65
6	98884.32	663831.00	671320.79
5	98879.98	662522.58	670026.99
4	98875.63	661219.19	668738.22
3	98871.28	659920.80	667454.46
2	98866.92	658627.39	666175.68
1	98862.55	657338.92	664901.84
0	98858.17	656055.38	663632.93
9	98853.78	654776.72	662368.90
8	98849.38	653502.93	661109.73
7	98844.98	652233.96	659855.40
6	98840.57	650969.81	658605.87
5	98836.15	649710.43	657361.12
4	98831.72	648455.81	656121.13
3	98827.28	647205.91	654885.86
2	98822.83	645960.70	653655.28
1	98818.38	644720.17	652429.38
0	98813.92	643484.28	651208.12
9	98809.45	642253.01	649991.48
8	98804.97	641026.33	648779.44
7	98800.48	639804.22	647571.95
6	98795.98	638586.65	646369.01
5	98791.48	637373.59	645170.59
4	98786.97	636165.02	643976.66
3	98782.45	634960.92	642787.19
2	98777.92	633761.26	641602.16
1	98773.38	632566.01	640421.54
0	98768.83	631375.15	639245.32

9	*Sinus*	*Tangens*	*Secans*
0	15643.45	15838.44	101246.51
1	15672.18	15868.26	101251.18
2	15700.91	15898.08	101255.86
3	15729.63	15927.91	101260.55
4	15758.36	15957.74	101265.25
5	15787.08	15987.57	101269.96
6	15815.81	16017.40	101274.67
7	15844.53	16047.24	101279.39
8	15873.25	16077.08	101284.12
9	15901.97	16106.92	101288.86
10	15930.69	16136.77	101293.61
11	15959.40	16166.62	101298.37
12	15988.12	16196.47	101303.14
13	16016.83	16226.32	101307.92
14	16045.55	16256.17	101312.71
15	16074.26	16286.03	101317.51
16	16102.97	16315.89	101322.31
17	16131.67	16345.76	101327.12
18	16160.38	16375.63	101331.94
19	16189.09	16405.50	101336.77
20	16217.79	16435.37	101341.61
21	16246.50	16465.25	101346.46
22	16275.20	16495.13	101351.32
23	16303.90	16525.01	101356.19
24	16332.60	16554.89	101361.07
25	16361.29	16584.78	101365.95
26	16389.99	16614.67	101370.84
27	16418.68	16644.56	101375.74
28	16447.38	16674.46	101380.65
29	16476.07	16704.36	101385.57
30	16504.76	16734.26	101390.50

	Sinus	Tangens	Secans
60	98768.83	631375.15	639245.32
59	98764.28	630188.66	638073.47
58	98759.72	629006.51	636905.95
57	98755.15	627828.68	635742.76
56	98750.57	626655.14	634583.86
55	98745.98	625485.88	633429.23
54	98741.38	624320.86	632278.84
53	98736.77	623160.07	631132.69
52	98732.16	622003.47	629990.73
51	98727.54	620851.06	628852.95
50	98722.91	619702.79	627719.33
49	98718.27	618558.67	626589.84
48	98713.62	617418.65	625464.46
47	98708.97	616282.72	624343.16
46	98704.31	615150.85	623225.94
45	98699.64	614023.03	622112.75
44	98694.96	612899.23	621003.59
43	98690.27	611779.43	619898.43
42	98685.57	610663.60	618797.25
41	98680.86	609551.74	617700.03
40	98676.15	608443.81	616606.74
39	98671.43	607339.79	615517.36
38	98666.70	606239.67	614431.89
37	98661.96	605143.43	613350.28
36	98657.21	604051.03	612272.53
35	98652.46	602962.47	611198.61
34	98647.70	601877.72	610128.50
33	98642.93	600796.76	609062.19
32	98638.15	599719.57	607999.64
31	98633.36	598646.14	606940.85
30	98628.56	597576.44	605885.80

9	*Sinus*	*Tangens*	*Secans*
30	16504.76	16734.26	101390.50
31	16533.45	16764.16	101395.44
32	16562.14	16794.07	101400.39
33	16590.82	16823.98	101405.35
34	16619.51	16853.89	101410.32
35	16648.19	16883.81	101415.30
36	16676.87	16913.73	101420.29
37	16705.55	16943.65	101425.29
38	16734.23	16973.58	101430.29
39	16762.91	17003.51	101435.30
40	16791.59	17033.44	101440.32
41	16820.26	17063.37	101445.35
42	16848.94	17093.31	101450.39
43	16877.61	17123.25	101455.44
44	16906.28	17153.19	101460.50
45	16934.95	17183.14	101465.57
46	16963.62	17213.09	101470.64
47	16992.28	17243.04	101475.72
48	17020.95	17273.00	101480.81
49	17049.61	17302.96	101485.91
50	17078.28	17332.92	101491.02
51	17106.94	17362.88	101496.14
52	17135.60	17392.85	101501.27
53	17164.25	17422.82	101506.41
54	17192.91	17452.79	101511.56
55	17221.56	17482.77	101516.72
56	17250.22	17512.75	101521.89
57	17278.87	17542.73	101527.07
58	17307.52	17572.72	101532.26
59	17336.17	17602.71	101537.46
60	17364.82	17632.70	101542.67

	Sinus	Tangens	Secans
30	98628.56	597576.44	605885.80
29	98623.75	596510.45	604834.45
28	98618.94	595448.15	603786.80
27	98614.12	594389.52	602742.82
26	98609.29	593334.55	601702.50
25	98604.45	592283.22	600665.81
24	98599.60	591235.50	599632.74
23	98594.74	590191.38	598603.26
22	98589.88	589150.84	597577.37
21	98585.01	588113.86	596555.04
20	98580.13	587080.42	595536.25
19	98575.24	586050.51	594520.98
18	98570.34	585024.10	593509.22
17	98565.44	584001.17	592500.95
16	98560.53	582981.72	591496.14
15	98555.61	581965.72	590494.79
14	98550.68	580953.15	589496.88
13	98545.74	579944.00	588502.38
12	98540.79	578938.25	587511.28
11	98535.83	577935.88	586523.56
10	98530.87	576936.88	585539.20
9	98525.90	575941.22	584558.20
8	98520.92	574948.89	583580.53
7	98515.93	573959.88	582606.17
6	98510.93	572974.16	581635.10
5	98505.92	571991.73	580667.32
4	98500.91	571012.56	579702.80
3	98495.89	570036.63	578741.53
2	98490.86	569063.94	577783.50
1	98485.82	568094.46	576828.67
0	98480.77	567128.18	575877.05
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10	Sinus	Tangens	Secans
0	17364.82	17632.70	101542.67
1	17393.46	17662.69	101547.88
2	17422.11	17692.69	101553.10
3	17450.75	17722.69	101558.33
4	17479.39	17752.69	101563.57
5	17508.03	17782.70	101568.82
6	17536.67	17812.71	101574.08
7	17565.31	17842.72	101579.35
8	17593.95	17872.74	101584.63
9	17622.58	17902.76	101589.92
10	17651.21	17932.78	101595.21
11	17679.84	17962.81	101600.51
12	17708.47	17992.84	101605.82
13	17737.10	18022.87	101611.14
14	17765.73	18052.91	101616.47
15	17794.35	18082.95	101621.81
16	17822.98	18112.99	101627.16
17	17851.60	18143.03	101632.52
18	17880.22	18173.08	101637.89
19	17908.84	18203.13	101643.27
20	17937.46	18233.18	101648.66
21	17966.07	18263.24	101654.06
22	17994.69	18293.30	101659.46
23	18023.30	18323.36	101664.87
24	18051.91	18353.43	101670.29
25	18080.52	18383.50	101675.72
26	18109.13	18413.57	101681.16
27	18137.74	18443.65	101686.61
28	18166.35	18473.73	101692.07
29	18194.95	18503.81	101697.54
30	18223.55	18533.90	101703.02

	Sinus	Tangens	Secans
60	98480.77	567128.18	575877.05
59	98475.71	566165.09	574928.61
58	98470.65	565205.16	573983.33
57	98465.58	564248.38	573041.21
56	98460.50	563294.74	572102.23
55	98455.41	562344.21	571166.36
54	98450.31	561396.80	570233.60
53	98445.21	560452.47	569303.93
52	98440.10	559511.21	568377.34
51	98434.98	558573.02	567453.80
50	98429.85	557637.86	566533.31
49	98424.71	556705.74	565615.84
48	98419.56	555776.63	564701.40
47	98414.40	554850.52	563789.95
46	98409.24	553927.40	562881.48
45	98404.07	553007.24	561975.99
44	98398.89	552090.05	561073.45
43	98393.70	551175.79	560173.86
42	98388.50	550264.46	559277.19
41	98383.29	549356.04	558383.43
40	98378.08	548450.52	557492.58
39	98372.86	547547.88	556604.60
38	98367.63	546648.12	555719.50
37	98362.39	545751.21	554837.26
36	98357.14	544857.15	553957.86
35	98351.89	543965.92	553081.29
34	98346.63	543077.50	552207.54
33	98341.36	542191.88	551336.59
32	98336.08	541309.06	550468.43
31	98330.79	540429.01	549603.05
30	98325.49	539551.72	548740.43

10	*Sinus*	*Tangens*	*Secans*
30	18223.55	18533.90	101703.02
31	18252.15	18563.99	101708.51
32	18280.75	18594.08	101714.01
33	18309.35	18624.18	101719.52
34	18337.95	18654.28	101725.04
35	18366.54	18684.38	101730.56
36	18395.13	18714.49	101736.09
37	18423.73	18744.60	101741.63
38	18452.32	18774.71	101747.18
39	18480.91	18804.83	101752.74
40	18509.49	18834.95	101758.31
41	18538.08	18865.07	101763.89
42	18566.66	18895.20	101769.48
43	18595.24	18925.33	101775.08
44	18623.82	18955.46	101780.69
45	18652.40	18985.59	101786.31
46	18680.98	19015.73	101791.94
47	18709.56	19045.87	101797.58
48	18738.13	19076.02	101803.22
49	18766.70	19106.17	101808.87
50	18795.27	19136.32	101814.53
51	18823.84	19166.48	101820.20
52	18852.41	19196.64	101825.88
53	18880.98	19226.80	101831.57
54	18909.54	19256.96	101837.27
55	18938.11	19287.13	101842.98
56	18966.67	19317.30	101848.70
57	18995.23	19347.48	101854.43
58	19023.79	19377.66	101860.17
59	19052.34	19407.84	101865.92
60	19080.90	19438.03	101871.68

	Sinus	Tangens	Secans
30	98325.49	539551.72	548740.43
29	98320.18	538677.18	547880.55
28	98314.87	537805.38	547023.42
27	98309.55	536936.30	546169.01
26	98304.22	536069.93	545317.31
25	98298.88	535206.26	544468.31
24	98293.53	534345.27	543621.99
23	98288.17	533486.96	542778.35
22	98282.81	532631.31	541937.37
21	98277.44	531778.30	541099.03
20	98272.06	530927.93	540263.33
19	98266.67	530080.18	539430.26
18	98261.27	529235.05	538599.79
17	98255.87	528392.51	537771.92
16	98250.46	527552.55	536946.64
15	98245.04	526715.17	536123.93
14	98239.61	525880.35	535303.79
13	98234.17	525048.09	534486.20
12	98228.72	524218.36	533671.14
11	98223.27	523391.16	532858 61
10	98217.81	522566.47	532048.60
9	98212.34	521744.28	531241.09
8	98206.86	520924.59	530436.08
7	98201.37	520107.38	529633.54
6	98195.87	519292.64	528833.47
5	98190.36	518480.35	528035.87
4	98184.85	517670.51	527240.70
3	98179.33	516863.11	526447.98
2	98173 80	516058.13	525657.68
1	98168.26	515255.57	524869.79
0	98162.71	514455.40	524084.31

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11	*Sinus*	*Tangens*	*Secans*
0	19080.90	19438.03	101871.68
1	19109.45	19468.22	101877.44
2	19138.00	19498.41	101883.21
3	19166.55	19528.61	101888.99
4	19195.10	19558.81	101894.78
5	19223.65	19589.01	101900.58
6	19252.20	19619.22	101906.39
7	19280.74	19649.43	101912.21
8	19309.28	19679.64	101918.04
9	19337.82	19709.86	101923.88
10	19366.36	19740.08	101929.73
11	19394.90	19770.30	101935.59
12	19423.44	19800.53	101941.46
13	19451.97	19830.76	101947.34
14	19480.50	19861.00	101953.23
15	19509.03	19891.24	101959.12
16	19537.56	19921.48	101965.02
17	19566.09	19951.72	101970.93
18	19594.61	19981.97	101976.85
19	19623.14	20012.22	101982.78
20	19651.66	20042.48	101988.72
21	19680.18	20072.74	101994.67
22	19708.70	20103.00	102000.63
23	19737.22	20133.27	102006.60
24	19765.73	20163.54	102012.58
25	19794.25	20193.81	102018.57
26	19822.76	20224.09	102024.57
27	19851.27	20254.37	102030.58
28	19879.78	20284.65	102036.60
29	19908.29	20314.94	102042.63
30	19936.79	20345.23	102048.67

	Sinus	Tangens	Secans
60	98162.71	514455.40	524084.31
59	98157.16	513657.63	523301.21
58	98151.60	512862.24	522520.50
57	98146.03	512069.21	521742.16
56	98140.45	511278.55	520966.18
55	98134.86	510490.24	520192.54
54	98129.26	509704.26	519421.25
53	98123.66	508920.61	518652.28
52	98118.05	508139.28	517885.63
51	98112.43	507360.25	517121.28
50	98106.80	506583.52	516359.24
49	98101.16	505809.07	515599.48
48	98095.51	505036.90	514841.99
47	98089.86	504267.00	514086.77
46	98084.20	503499.35	513333.81
45	98078.53	502733.95	512583.09
44	98072.85	501970.78	511834.61
43	98067.16	501209.84	511088.35
42	98061.46	500451.11	510344.31
41	98055.76	499694.59	509602.48
40	98050.05	498940.27	508862.84
39	98044.33	498188.13	508125.39
38	98038.60	497438.17	507390.12
37	98032.86	496690.37	506657.01
36	98027.11	495944.74	505926.06
35	98021.36	495201.25	505197.26
34	98015.60	494459.90	504470.60
33	98009.83	493720.68	503746.07
32	98004.05	492983.58	503023.67
31	97998.26	492248.59	502303.37
30	97992.47	491515.70	501585.17

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11	Sinus	Tangens	Secans
30	19936.79	20345.23	102048.67
31	19965.30	20375.52	102054.71
32	19993.80	20405.82	102060.76
33	20022.30	20436.12	102066.82
34	20050.80	20466.43	102072.89
35	20079.30	20496.74	102078.97
36	20107.79	20527.05	102085.06
37	20136.29	20557.37	102091.16
38	20164.78	20587.69	102097.27
39	20193.27	20618.01	102103.39
40	20221.76	20648.34	102109.52
41	20250.24	20678.67	102115.66
42	20278.73	20709.00	102121.81
43	20307.21	20739.34	102127.97
44	20335.69	20769.68	102134.14
45	20364.17	20800.03	102140.32
46	20392.65	20830.38	102146.50
47	20421.13	20860.73	102152.69
48	20449.61	20891.09	102158.89
49	20478.08	20921.45	102165.10
50	20506.55	20951.81	102171.32
51	20535.02	20982.18	102177.55
52	20563.49	21012.55	102183.79
53	20591.95	21042.93	102190.04
54	20620.42	21073.31	102196.30
55	20648.88	21103.69	102202.57
56	20677.34	21134.07	102208.85
57	20705.80	21164.46	102215.14
58	20734.26	21194.85	102221.44
59	20762.71	21225.25	102227.75
60	20791.17	21255.65	102234.07

	Sinus	*Tangens*	*Secans*
30	97992.47	491515.70	501585.17
29	97986.67	490784.91	500869.07
28	97980.86	490056.20	500155.05
27	97975.04	489329.56	499443.11
26	97969.21	488604.99	498733.23
25	97963.37	487882.48	498025.41
24	97957.52	487162.01	497319.64
23	97951.67	486443.59	496615.91
22	97945.81	485727.19	495914.21
21	97939.94	485012.82	495214.53
20	97934.06	484300.45	494516.87
19	97928.17	483590.10	493821.20
18	97922.28	482881.74	493127.54
17	97916.38	482175.36	492435.86
16	97910.47	481470.96	491746.16
15	97904.55	480768.54	491058.44
14	97898.62	480068.08	490372.67
13	97892.68	479369.57	489688.86
12	97886.74	478673.00	489007.00
11	97880.79	477978.37	488327.07
10	97874.83	477285.67	487649.07
9	97868.86	476594.90	486972.99
8	97862.88	475906.03	486298.83
7	97856.89	475219.07	485626.57
6	97850.90	474534.01	484956.21
5	97844.90	473850.83	484287.74
4	97838.89	473169.54	483621.14
3	97832.87	472490.12	482956.43
2	97826.84	471812.56	482293.57
1	97820.80	471136.86	481632.58
0	97814.76	470463.01	480973.43

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12	Sinus	Tangens	Secans
0	20791.17	21255.65	102234.07
1	20819.62	21286.06	102240.40
2	20848.07	21316.47	102246.73
3	20876.52	21346.88	102253.07
4	20904.97	21377.30	102259.42
5	20933.41	21407.72	102265.78
6	20961.86	21438.14	102272.15
7	20990.30	21468.57	102278.53
8	21018.74	21499.00	102284.92
9	21047.18	21529.44	102291.32
10	21075.61	21559.88	102297.73
11	21104.05	21590.32	102304.15
12	21132.48	21620.77	102310.58
13	21160.91	21651.22	102317.02
14	21189.34	21681.67	102323.47
15	21217.77	21712.13	102329.93
16	21246.19	21742.59	102336.40
17	21274.62	21773.06	102342.88
18	21303.04	21803.53	102349.37
19	21331.46	21834.00	102355.87
20	21359.88	21864.48	102362.38
21	21388.29	21894.96	102368.90
22	21416.71	21925.44	102375.43
23	21445.12	21955.93	102381.96
24	21473.53	21986.42	102388.50
25	21501.94	22016.92	102395.05
26	21530.35	22047.42	102401.61
27	21558.76	22077.93	102408.18
28	21587.16	22108.44	102414.76
29	21615.56	22138.95	102421.35
30	21643.96	22169.47	102427.95

	Sinus	Tangens	Secans
60	97814.76	470463.01	480973.43
59	97808.71	469791.00	480316.13
58	97802.65	469120.83	479660.66
57	97796.58	468452.48	479007.02
56	97790.50	467785.95	478355.20
55	97784.41	467121.24	477705.19
54	97778.32	466458.32	477056.99
53	97772.22	465797.21	476410.58
52	97766.11	465137.88	475765.96
51	97759.99	464480.34	475123.12
50	97753.86	463824.57	474482.06
49	97747.73	463170.56	473842.77
48	97741.59	462518.32	473205.23
47	97735.44	461867.83	472569.45
46	97729.28	461219.08	471935.42
45	97723.11	460572.07	471303.13
44	97716.93	459926.80	470672.56
43	97710.75	459283.25	470043.72
42	97704.56	458641.41	469416.60
41	97698.36	458001.29	468791.19
40	97692.15	457362.87	468167.48
39	97685.93	456726.14	467545.48
38	97679.70	456091.11	466925.16
37	97673.47	455457.76	466306.52
36	97667.23	454826.08	465689.56
35	97660.98	454196.08	465074.27
34	97654.72	453567.73	464460.64
33	97648.45	452941.05	463848.67
32	97642.17	452316.01	463238.35
31	97635.89	451692.61	462629.67
30	97629.60	451070.85	462022.63

12	*Sinus*	*Tangens*	*Secans*
30	21643.96	22169.47	102427.95
31	21672.36	22199.99	102434.56
32	21700.76	22230.51	102441.18
33	21729.15	22261.04	102447.81
34	21757.54	22291.57	102454.45
35	21785.93	22322.11	102461.10
36	21814.32	22352.65	102467.76
37	21842.71	22383.19	102474.43
38	21871.10	22413.74	102481.11
39	21899.48	22444.29	102487.80
40	21927.86	22474.85	102494.49
41	21956.24	22505.41	102501.19
42	21984.62	22535.97	102507.90
43	22013.00	22566.54	102514.62
44	22041.37	22597.11	102521.35
45	22069.74	22627.69	102528.09
46	22098.11	22658.27	102534.84
47	22126.48	22688.85	102541.60
48	22154.85	22719.44	102548.37
49	22183.21	22750.03	102555.15
50	22211.58	22780.63	102561.94
51	22239.94	22811.23	102568.74
52	22268.30	22841.83	102575.55
53	22296.66	22872.44	102582.37
54	22325.01	22903.05	102589.20
55	22353.37	22933.67	102596.04
56	22381.72	22964.29	102602.89
57	22410.07	22994.92	102609.75
58	22438.41	23025.55	102616.62
59	22466.76	23056.18	102623.50
60	22495.11	23086.82	102630.39

	Sinus	Tangens	Secans
30	97629.60	451070.85	462022.63
29	97623.30	450450.72	461417.22
28	97616.99	449832.21	460813.43
27	97610.67	449215.32	460211.26
26	97604.35	448600.04	459610.70
25	97598.02	447986.36	459011.74
24	97591.68	447374.28	458414.39
23	97585.33	446763.79	457818.62
22	97578.97	446154.89	457224.44
21	97572.60	445547.56	456631.83
20	97566.23	444941.81	456040.80
19	97559.85	444337.62	455451.34
18	97553.46	443734.99	454863.44
17	97547.06	443133.92	454277.09
16	97540.65	442534.39	453692.29
15	97534.23	441936.41	453109.03
14	97527.81	441339.96	452527.30
13	97521.38	440745.04	451947.11
12	97514.94	440151.64	451368.44
11	97508.49	439559.76	450791.29
10	97502.03	438969.40	450215.65
9	97495.56	438380.54	449641.52
8	97489.09	437793.17	449068.89
7	97482.61	437207.31	448497.75
6	97476.12	436622.93	447928.10
5	97469.62	436040.03	447359.93
4	97463.11	435458.61	446793.24
3	97456.60	434878.66	446228.03
2	97450.08	434300.18	445664.28
1	97443.55	433723.16	445101.98
0	97437.01	433147.59	444541.15
77			

13	Sinus	Tangens	Secans
30	23344.54	24007.87	102841.52
31	23372.82	24038.64	102848.71
32	23401.10	24069.41	102855.91
33	23429.38	24100.19	102863.12
34	23457.66	24130.97	102870.34
35	23485.94	24161.76	102877.57
36	23514.21	24192.55	102884.81
37	23542.48	24223.34	102892.06
38	23570.75	24254.14	102899.32
39	23599.02	24284.94	102906.58
40	23627.29	24315.75	102913.85
41	23655.55	24346.56	102921.13
42	23683.81	24377.37	102928.42
43	23712.07	24408.19	102935.72
44	23740.33	24439.01	102943.03
45	23768.59	24469.84	102950.35
46	23796.84	24500.67	102957.68
47	23825.10	24531.51	102965.02
48	23853.35	24562.35	102972.37
49	23881.59	24593.20	102979.73
50	23909.84	24624.05	102987.10
51	23938.08	24654.91	102994.48
52	23966.33	24685.77	103001.87
53	23994.57	24716.63	103009.27
54	24022.80	24747.50	103016.68
55	24051.04	24778.37	103024.10
56	24079.27	24809.25	103031.53
57	24107.51	24840.13	103038.97
58	24135.74	24871.02	103046.42
59	24163.96	24901.91	103053.88
60	24192.19	24932.80	103061.35

	Sinus	*Tangens*	*Secans*
30	97236.99	416529.98	428365.76
29	97230.19	415996.85	427847.38
28	97223.39	415465.01	427330.29
27	97216.58	414934.46	426814.49
26	97209.76	414405.19	426299.96
25	97202.93	413877.19	425786.71
24	97196.09	413350.46	425274.74
23	97189.25	412824.99	424764.02
22	97182.40	412300.79	424254.57
21	97175.54	411777.84	423746.37
20	97168.67	411256.14	423239.43
19	97161.79	410735.69	422733.73
18	97154.91	410216.49	422229.28
17	97148.02	409698.52	421726.06
16	97141.12	409181.78	421224.08
15	97134.21	408666.27	420723.33
14	97127.29	408151.99	420223.80
13	97120.36	407638.92	419725.49
12	97113.43	407127.07	419228.40
11	97106.49	406616.43	418732.52
10	97099.54	406107.00	418237.85
9	97092.58	405598.77	417744.38
8	97085.61	405091.74	417252.10
7	97078.63	404585.90	416761.02
6	97071.65	404081.25	416271.14
5	97064.66	403577.79	415782.43
4	97057.66	403075.50	415294.91
3	97050.65	402574.40	414808.56
2	97043.63	402074.46	414323.39
1	97036.60	401575.70	413839.39
0	97029.57	401078.09	413356.55
76			

14	*Sinus*	*Tangens*	*Secans*
0	24192.19	24932.80	103061.35
1	24220.41	24963.70	103068.83
2	24248.63	24994.60	103076.32
3	24276.85	25025.51	103083.82
4	24305.07	25056.42	103091.33
5	24333.29	25087.34	103098.85
6	24361.50	25118.26	103106.38
7	24389.71	25149.19	103113.92
8	24417.92	25180.12	103121.47
9	24446.13	25211.06	103129.03
10	24474.33	25242.00	103136.60
11	24502.54	25272.94	103144.18
12	24530.74	25303.89	103151.77
13	24558.94	25334.84	103159.36
14	24587.13	25365.80	103166.97
15	24615.33	25396.76	103174.59
16	24643.52	25427.73	103182.22
17	24671.71	25458.70	103189.85
18	24699.90	25489.68	103197.50
19	24728.09	25520.66	103205.16
20	24756.27	25551.65	103212.82
21	24784.45	25582.64	103220.50
22	24812.63	25613.63	103228.18
23	24840.81	25644.63	103235.88
24	24868.99	25675.63	103243.59
25	24897.16	25706.64	103251.30
26	24925.33	25737.66	103259.03
27	24953.50	25768.68	103266.76
28	24981.67	25799.70	103274.51
29	25009.84	25830.73	103282.27
30	25038.00	25861.76	103290.03

	Sinus	Tangens	Secans
60	97029.57	401078.09	413356.55
59	97022.53	400581.65	412874.87
58	97015.48	400086.36	412394.35
57	97008.42	399592.23	411914.98
56	97001.35	399099.24	411436.75
55	96994.28	398607.39	410959.67
54	96987.20	398116.69	410483.74
53	96980.11	397627.12	410008.93
52	96973.01	397138.68	409535.26
51	96965.90	396651.37	409062.72
50	96958.79	396165.18	408591.30
49	96951.67	395680.11	408121.00
48	96944.54	395196.15	407651.81
47	96937.40	394713.31	407183.74
46	96930.25	394231.57	406716.77
45	96923.09	393750.94	406250.91
44	96915.92	393271.41	405786.15
43	96908.75	392792.97	405322.49
42	96901.57	392315.63	404859.92
41	96894.38	391839.37	404398.44
40	96887.18	391364.20	403938.04
39	96879.98	390890.11	403478.72
38	96872.77	390417.10	403020.48
37	96865.55	389945.16	402563.32
36	96858.32	389474.29	402107.22
35	96851.08	389004.48	401652.19
34	96843.83	388535.74	401198.23
33	96836.57	388068.05	400745.32
32	96829.31	387601.42	400293.47
31	96822.04	387135.84	399842.67
30	96814.76	386671.31	399392.92

12	*Sinus*	*Tangens*	*Secans*
0	20791.17	21255.65	102234.07
1	20819.62	21286.06	102240.40
2	20848.07	21316.47	102246.73
3	20876.52	21346.88	102253.07
4	20904.97	21377.30	102259.42
5	20933.41	21407.72	102265.78
6	20961.86	21438.14	102272.15
7	20990.30	21468.57	102278.53
8	21018.74	21499.00	102284.92
9	21047.18	21529.44	102291.32
10	21075.61	21559.88	102297.73
11	21104.05	21590.32	102304.15
12	21132.48	21620.77	102310.58
13	21160.91	21651.22	102317.02
14	21189.34	21681.67	102323.47
15	21217.77	21712.13	102329.93
16	21246.19	21742.59	102336.40
17	21274.62	21773.06	102342.88
18	21303.04	21803.53	102349.37
19	21331.46	21834.00	102355.87
20	21359.88	21864.48	102362.38
21	21388.29	21894.96	102368.90
22	21416.71	21925.44	102375.43
23	21445.12	21955.93	102381.96
24	21473.53	21986.42	102388.50
25	21501.94	22016.92	102395.05
26	21530.35	22047.42	102401.61
27	21558.76	22077.93	102408.18
28	21587.16	22108.44	102414.76
29	21615.56	22138.95	102421.35
30	21643.96	22169.47	102427.95

	Sinus	Tangens	Secans
60	97814.76	470463.01	480973.43
59	97808.71	469791.00	480316.13
58	97802.65	469120.83	479660.66
57	97796.58	468452.48	479007.02
56	97790.50	467785.95	478355.20
55	97784.41	467121.24	477705.19
54	97778.32	466458.32	477056.99
53	97772.22	465797.21	476410.58
52	97766.11	465137.88	475765.96
51	97759.99	464480.34	475123.12
50	97753.86	463824.57	474482.06
49	97747.73	463170.56	473842.77
48	97741.59	462518.32	473205.23
47	97735.44	461867.83	472569.45
46	97729.28	461219.08	471935.42
45	97723.11	460572.07	471303.13
44	97716.93	459926.80	470672.56
43	97710.75	459283.25	470043.72
42	97704.56	458641.41	469416.60
41	97698.36	458001.29	468791.19
40	97692.15	457362.87	468167.48
39	97685.93	456726.14	467545.48
38	97679.70	456091.11	466925.16
37	97673.47	455457.76	466306.52
36	97667.23	454826.08	465689.56
35	97660.98	454196.08	465074.27
34	97654.72	453567.73	464460.64
33	97648.45	452941.05	463848.67
32	97642.17	452316.01	463238.35
31	97635.89	451692.61	462629.67
30	97629.60	451070.85	462022.63

12	Sinus	Tangens	Secans
30	21643.96	22169.47	102427.95
31	21672.36	22199.99	102434.56
32	21700.76	22230.51	102441.18
33	21729.15	22261.04	102447.81
34	21757.54	22291.57	102454.45
35	21785.93	22322.11	102461.10
36	21814.32	22352.65	102467.76
37	21842.71	22383.19	102474.43
38	21871.10	22413.74	102481.11
39	21899.48	22444.29	102487.80
40	21927.86	22474.85	102494.49
41	21956.24	22505.41	102501.19
42	21984.62	22535.97	102507.90
43	22013.00	22566.54	102514.62
44	22041.37	22597.11	102521.35
45	22069.74	22627.69	102528.09
46	22098.11	22658.27	102534.84
47	22126.48	22688.85	102541.60
48	22154.85	22719.44	102548.37
49	22183.21	22750.03	102555.15
50	22211.58	22780.63	102561.94
51	22239.94	22811.23	102568.74
52	22268.30	22841.83	102575.55
53	22296.66	22872.44	102582.37
54	22325.01	22903.05	102589.20
55	22353.37	22933.67	102596.04
56	22381.72	22964.29	102602.89
57	22410.07	22994.92	102609.75
58	22438.41	23025.55	102616.62
59	22466.76	23056.18	102623.50
60	22495.11	23086.82	102630.39

	Sinus	Tangens	Secans
30	97629.60	451070.85	462022.63
29	97623.30	450450.72	461417.22
28	97616.99	449832.21	460813.43
27	97610.67	449215.32	460211.26
26	97604.35	448600.04	459610.70
25	97598.02	447986.36	459011.74
24	97591.68	447374.28	458414.39
23	97585.33	446763.79	457818.62
22	97578.97	446154.89	457224.44
21	97572.60	445547.56	456631.83
20	97566.23	444941.81	456040.80
19	97559.85	444337.62	455451.34
18	97553.46	443734.99	454863.44
17	97547.06	443133.92	454277.09
16	97540.65	442534.39	453692.29
15	97534.23	441936.41	453109.03
14	97527.81	441339.96	452527.30
13	97521.38	440745.04	451947.11
12	97514.94	440151.64	451368.44
11	97508.49	439559.76	450791.29
10	97502.03	438969.40	450215.65
9	97495.56	438380.54	449641.52
8	97489.09	437793.17	449068.89
7	97482.61	437207.31	448497.75
6	97476.12	436622.93	447928.10
5	97469.62	436040.03	447359.93
4	97463.11	435458.61	446793.24
3	97456.60	434878.66	446228.03
2	97450.08	434300.18	445664.28
1	97443.55	433723.16	445101.98
0	97437.01	433147.59	444541.15

13	Sinus	Tangens	Secans
0	22495.11	23086.82	102630.39
1	22523.45	23117.46	102637.29
2	22551.79	23148.11	102644.20
3	22580.13	23178.76	102651.12
4	22608.46	23209.41	102658.05
5	22636.80	23240.07	102664.99
6	22665.13	23270.73	102671.94
7	22693.46	23301.40	102678.90
8	22721.79	23332.07	102685.87
9	22750.12	23362.74	102692.84
10	22778.44	23393.42	102699.82
11	22806.77	23424.10	102706.81
12	22835.09	23454.79	102713.81
13	22863.41	23485.48	102720.82
14	22891.72	23516.17	102727.84
15	22920.04	23546.87	102734.87
16	22948.35	23577.58	102741.91
17	22976.66	23608.29	102748.96
18	23004.97	23639.00	102756.02
19	23033.28	23669.72	102763.09
20	23061.59	23700.44	102770.17
21	23089.89	23731.16	102777.26
22	23118.19	23761.89	102784.36
23	23146.49	23792.62	102791.47
24	23174.79	23823.36	102798.59
25	23203.09	23854.10	102805.72
26	23231.38	23884.85	102812.86
27	23259.67	23915.60	102820.01
28	23287.96	23946.35	102827.17
29	23316.25	23977.11	102834.34
30	23344.54	24007.87	102841.52

	Sinus	Tangens	Secans
60	97437.01	433147.59	444541.15
59	97430.46	432573.47	443981.76
58	97423.90	432000.79	443423.82
57	97417.34	431429.55	442867.31
56	97410.77	430859.74	442312.24
55	97404.19	430291.36	441758.59
54	97397.60	429724.40	441206.37
53	97391.00	429158.85	440655.56
52	97384.39	428594.72	440106.16
51	97377.78	428031.99	439558.17
50	97371.16	427470.66	439011.58
49	97364.53	426910.72	438466.38
48	97357.89	426352.18	437922.57
47	97351.24	425795.01	437380.15
46	97344.58	425239.23	436839.10
45	97337.92	424684.82	436299.43
44	97331.25	424131.77	435761.13
43	97324.57	423580.09	435224.19
42	97317.88	423029.77	434688.61
41	97311.18	422480.80	434154.38
40	97304.48	421933.18	433621.50
39	97297.77	421386.90	433089.96
38	97291.05	420841.96	432559.77
37	97284.32	420298.35	432030.90
36	97277.58	419756.06	431503.36
35	97270.84	419215.10	430977.15
34	97264.09	418675.46	430452.25
33	97257.33	418137.13	429928.67
32	97250.56	417600.11	429406.40
31	97243.78	417064.40	428885.43
30	97236.99	416529.98	428365.76

13	*Sinus*	*Tangens*	*Secans*
30	23344.54	24007.87	102841.52
31	23372.82	24038.64	102848.71
32	23401.10	24069.41	102855.91
33	23429.38	24100.19	102863.12
34	23457.66	24130.97	102870.34
35	23485.94	24161.76	102877.57
36	23514.21	24192.55	102884.81
37	23542.48	24223.34	102892.06
38	23570.75	24254.14	102899.32
39	23599.02	24284.94	102906.58
40	23627.29	24315.75	102913.85
41	23655.55	24346.56	102921.13
42	23683.81	24377.37	102928.42
43	23712.07	24408.19	102935.72
44	23740.33	24439.01	102943.03
45	23768.59	24469.84	102950.35
46	23796.84	24500.67	102957.68
47	23825.10	24531.51	102965.02
48	23853.35	24562.35	102972.37
49	23881.59	24593.20	102979.73
50	23909.84	24624.05	102987.10
51	23938.08	24654.91	102994.48
52	23966.33	24685.77	103001.87
53	23994.57	24716.63	103009.27
54	24022.80	24747.50	103016.68
55	24051.04	24778.37	103024.10
56	24079.27	24809.25	103031.53
57	24107.51	24840.13	103038.97
58	24135.74	24871.02	103046.42
59	24163.96	24901.91	103053.88
60	24192.19	24932.80	103061.35

	Sinus	*Tangens*	*Secans*
30	97236.99	416529.98	428365.76
29	97230.19	415996.85	427847.38
28	97223.39	415465.01	427330.29
27	97216.58	414934.46	426814.49
26	97209.76	414405.19	426299.96
25	97202.93	413877.19	425786.71
24	97196.09	413350.46	425274.74
23	97189.25	412824.99	424764.02
22	97182.40	412300.79	424254.57
21	97175.54	411777.84	423746.37
20	97168.67	411256.14	423239.43
19	97161.79	410735.69	422733.73
18	97154.91	410216.49	422229.28
17	97148.02	409698.52	421726.06
16	97141.12	409181.78	421224.08
15	97134.21	408666.27	420723.33
14	97127.29	408151.99	420223.80
13	97120.36	407638.92	419725.49
12	97113.43	407127.07	419228.40
11	97106.49	406616.43	418732.52
10	97099.54	406107.00	418237.85
9	97092.58	405598.77	417744.38
8	97085.61	405091.74	417252.10
7	97078.63	404585.90	416761.02
6	97071.65	404081.25	416271.14
5	97064.66	403577.79	415782.43
4	97057.66	403075.50	415294.91
3	97050.65	402574.40	414808.56
2	97043.63	402074.46	414323.39
1	97036.60	401575.70	413839.39
0	97029.57	401078.09	413356.55

14	Sinus	Tangens	Secans
0	24192.19	24932.80	103061.35
1	24220.41	24963.70	103068.83
2	24248.63	24994.60	103076.32
3	24276.85	25025.51	103083.82
4	24305.07	25056.42	103091.33
5	24333.29	25087.34	103098.85
6	24361.50	25118.26	103106.38
7	24389.71	25149.19	103113.92
8	24417.92	25180.12	103121.47
9	24446.13	25211.06	103129.03
10	24474.33	25242.00	103136.60
11	24502.54	25272.94	103144.18
12	24530.74	25303.89	103151.77
13	24558.94	25334.84	103159.36
14	24587.13	25365.80	103166.97
15	24615.33	25396.76	103174.59
16	24643.52	25427.73	103182.22
17	24671.71	25458.70	103189.85
18	24699.90	25489.68	103197.50
19	24728.09	25520.66	103205.16
20	24756.27	25551.65	103212.82
21	24784.45	25582.64	103220.50
22	24812.63	25613.63	103228.18
23	24840.81	25644.63	103235.88
24	24868.99	25675.63	103243.59
25	24897.16	25706.64	103251.30
26	24925.33	25737.66	103259.03
27	24953.50	25768.68	103266.76
28	24981.67	25799.70	103274.51
29	25009.84	25830.73	103282.27
30	25038.00	25861.76	103290.03

	Sinus	Tangens	Secans
60	97029.57	401078.09	413356.55
59	97022.53	400581.65	412874.87
58	97015.48	400086.36	412394.35
57	97008.42	399592.23	411914.98
56	97001.35	399099.24	411436.75
55	96994.28	398607.39	410959.67
54	96987.20	398116.69	410483.74
53	96980.11	397627.12	410008.93
52	96973.01	397138.68	409535.26
51	96965.90	396651.37	409062.72
50	96958.79	396165.18	408591.30
49	96951.67	395680.11	408121.00
48	96944.54	395196.15	407651.81
47	96937.40	394713.31	407183.74
46	96930.25	394231.57	406716.77
45	96923.09	393750.94	406250.91
44	96915.92	393271.41	405786.15
43	96908.75	392792.97	405322.49
42	96901.57	392315.63	404859.92
41	96894.38	391839.37	404398.44
40	96887.18	391364.20	403938.04
39	96879.98	390890.11	403478.72
38	96872.77	390417.10	403020.48
37	96865.55	389945.16	402563.32
36	96858.32	389474.29	402107.22
35	96851.08	389004.48	401652.19
34	96843.83	388535.74	401198.23
33	96836.57	388068.05	400745.32
32	96829.31	387601.42	400293.47
31	96822.04	387135.84	399842.67
30	96814.76	386671.31	399392.92

14	Sinus	Tangens	Secans
30	25038.00	25861.76	103290.03
31	25066.16	25892.80	103297.81
32	25094.32	25923.84	103305.59
33	25122.48	25954.88	103313.39
34	25150.63	25985.93	103321.19
35	25178.79	26016.99	103329.01
36	25206.94	26048.05	103336.83
37	25235.08	26079.11	103344.67
38	25263.23	26110.18	103352.51
39	25291.37	26141.26	103360.37
40	25319.52	26172.34	103368.23
41	25347.66	26203.42	103376.11
42	25375.79	26234.51	103383.99
43	25403.93	26265.60	103391.88
44	25432.06	26296.70	103399.79
45	25460.19	26327.80	103407.70
46	25488.32	26358.91	103415.63
47	25516.45	26390.02	103423.56
48	25544.58	26421.14	103431.51
49	25572.70	26452.26	103439.46
50	25600.82	26483.39	103447.43
51	25628.94	26514.52	103455.40
52	25657.05	26545.66	103463.38
53	25685.17	26576.80	103471.38
54	25713.28	26607.94	103479.38
55	25741.39	26639.09	103487.40
56	25769.50	26670.25	103495.42
57	25797.60	26701.41	103503.46
58	25825.70	26732.57	103511.50
59	25853.81	26763.74	103519.55
60	25881.90	26794.92	103527.62

	Sinus	Tangens	Secans
30	96814.76	386671.31	399392.92
29	96807.47	386207.82	398944.21
28	96800.18	385745.37	398496.54
27	96792.88	385283.96	398049.91
26	96785.57	384823.58	397604.31
25	96778.25	384364.24	397159.75
24	96770.92	383905.91	396716.21
23	96763.58	383448.61	396273.69
22	96756.23	382992.33	395832.19
21	96748.88	382537.07	395391.71
20	96741.52	382082.81	394952.24
19	96734.15	381629.57	394513.79
18	96726.77	381177.33	394076.33
17	96719.38	380726.09	393639.88
16	96711.99	380275.85	393204.43
15	96704.59	379826.61	392769.97
14	96697.18	379378.35	392336.51
13	96689.76	378931.09	391904.03
12	96682.33	378484.81	391472.54
11	96674.90	378039.51	391042.03
10	96667.46	377595.19	390612.50
9	96660.01	377151.85	390183.95
8	96652.55	376709.47	389756.37
7	96645.08	376268.07	389329.76
6	96637.60	375827.63	388904.11
5	96630.12	375388.15	388479.43
4	96622.63	374949.63	388055.70
3	96615.13	374512.07	387632.93
2	96607.62	374075.46	387211.12
1	96600.10	373639.80	386790.25
0	96592.58	373205.08	386370.33

5	*Sinus*	*Tangens*	*Secans*
0	26723.84	27732.45	103774.22
1	26751.87	27763.78	103782.60
2	26779.89	27795.12	103790.98
3	26807.92	27826.46	103799.38
4	26835.94	27857.80	103807.79
5	26863.96	27889.15	103816.21
6	26891.98	27920.50	103824.63
7	26920.00	27951.86	103833.07
8	26948.01	27983.22	103841.52
39	26976.02	28014.59	103849.98
40	27004.03	28045.97	103858.44
41	27032.04	28077.35	103866.92
42	27060.04	28108.73	103875.41
43	27088.05	28140.12	103883.91
44	27116.05	28171.52	103892.42
45	27144.04	28202.92	103900.94
46	27172.04	28234.32	103909.47
47	27200.03	28265.73	103918.00
48	27228.02	28297.15	103926.55
49	27256.01	28328.57	103935.11
50	27284.00	28359.99	103943.68
51	27311.98	28391.42	103952.26
52	27339.96	28422.86	103960.85
53	27367.94	28454.30	103969.45
54	27395.92	28485.75	103978.06
55	27423.90	28517.20	103986.69
56	27451.87	28548.66	103995.32
57	27479.84	28580.12	104003.96
58	27507.81	28611.59	104012.61
59	27535.78	28643.06	104021.27
60	27563.74	28674.54	104029.94

	Sinus	Tangens	Secans
30	96363.05	360588.35	374197.75
29	96355.27	360181.46	373805.68
28	96347.48	359775.43	373414.46
27	96339.69	359370.24	373024.09
26	96331.89	358965.90	372634.57
25	96324.08	358562.41	372245.89
24	96316.26	358159.75	371858.05
23	96308.43	357757.94	371471.05
22	96300.59	357356.96	371084.89
21	96292.75	356956.81	370699.56
20	96284.90	356557.49	370315.06
19	96277.04	356159.00	369931.39
18	96269.17	355761.33	369548.54
17	96261.30	355364.49	369166.52
16	96253.42	354968.46	368785.32
15	96245.53	354573.25	368404.93
14	96237.63	354178.86	368025.36
13	96229.72	353785.28	367646.60
12	96221.80	353392.51	367268.65
11	96213.87	353000.54	366891.51
10	96205.94	352609.38	366515.18
9	96198.00	352219.02	366139.64
8	96190.05	351829.46	365764.91
7	96182.09	351440.70	365390.97
6	96174.13	351052.73	365017.83
5	96166.16	350665.55	364645.48
4	96158.18	350279.16	364273.92
3	96150.19	349893.56	363903.15
2	96142.19	349508.74	363533.16
1	96134.18	349124.70	363163.95
0	96126.17	348741.44	362795.53

16	*Sinus*	*Tangens*	*Secans*
0	27563.74	28674.54	104029.94
1	27591.70	28706.02	104038.63
2	27619.65	28737.51	104047.32
3	27647.61	28769.00	104056.02
4	27675.56	28800.50	104064.73
5	27703.52	28832.01	104073.46
6	27731.47	28863.52	104082.19
7	27759.41	28895.03	104090.94
8	27787.36	28926.55	104099.69
9	27815.30	28958 08	104108.45
10	27843:24	28989.61	104117.23
11	27871.18	29021.14	104126.01
12	27899.11	29052.68	104134.81
13	27927.04	29084.23	104143.62
14	27954.97	29115.78	104152.43
15	27982.90	29147.34	104161.26
16	28010.83	29178.90	104170.09
17	28038.75	29210.47	104178.94
18	28066.67	29242.05	104187.80
19	28094.59	29273.63	104196.67
20	28122.51	29305.21	104205.54
21	28150.42	29336.80	104214.43
22	28178.33	29368.39	104223.33
23	28206.24	29399.99	104232.24
24	28234.15	29431.60	104241.16
25	28262.05	29463.21	104250.09
26	28289.95	29494.83	104259.03
27	28317.85	29526.45	104267.98
28	28345.75	29558.08	104276.94
29	28373.64	29589.71	104285.91
30	28401.53	29621.35	104294.89

	Sinus	Tangens	Secans
60	96126.17	348741.44	362795.53
59	96118.15	348358.96	362427.88
58	96110.12	347977.26	362061.01
57	96102.08	347596.32	361694.90
56	96094.03	347216.16	361329.57
55	96085.98	346836.76	360965.01
54	96077.92	346458.13	360601.21
53	96069.85	346080.26	360238.18
52	96061.77	345703.15	359875.90
51	96053.68	345326.79	359514.39
50	96045.58	344951.20	359153.63
49	96037.48	344576.35	358793.62
48	96029.37	344202.26	358434.37
47	96021.25	343828.91	358075.86
46	96013.12	343456.31	357718.10
45	96004.98	343084.46	357361.08
44	95996.84	342713.34	357004.81
43	95988.69	342342.97	356649.28
42	95980.53	341973.33	356294.48
41	95972.36	341604.43	355940.42
40	95964.18	341236.26	355587.10
39	95956.00	340868.82	355234.50
38	95947.81	340502.10	354882.63
37	95939.61	340136.12	354531.49
36	95931.40	339770.85	354181.07
35	95923.18	339406.31	353831.38
34	95914.95	339042.49	353482.4[illegible]
33	95906.72	338679.38	353134.14
32	95898.48	338316.99	352786.60
31	95890.23	337955.31	352439.77
30	95881.97	337594.34	352093.65

14	*Sinus*	*Tangens*	*Secans*
0	24192.19	24932.80	103061.35
1	24220.41	24963.70	103068.83
2	24248.63	24994.60	103076.32
3	24276.85	25025.51	103083.82
4	24305.07	25056.42	103091.33
5	24333.29	25087.34	103098.85
6	24361.50	25118.26	103106.38
7	24389.71	25149.19	103113.92
8	24417.92	25180.12	103121.47
9	24446.13	25211.06	103129.03
10	24474.33	25242.00	103136.60
11	24502.54	25272.94	103144.18
12	24530.74	25303.89	103151.77
13	24558.94	25334.84	103159.36
14	24587.13	25365.80	103166.97
15	24615.33	25396.76	103174.59
16	24643.52	25427.73	103182.22
17	24671.71	25458.70	103189.85
18	24699.90	25489.68	103197.50
19	24728.09	25520.66	103205.16
20	24756.27	25551.65	103212.82
21	24784.45	25582.64	103220.50
22	24812.63	25613.63	103228.18
23	24840.81	25644.63	103235.88
24	24868.99	25675.63	103243.59
25	24897.16	25706.64	103251.30
26	24925.33	25737.66	103259.03
27	24953.50	25768.68	103266.76
28	24981.67	25799.70	103274.51
29	25009.84	25830.73	103282.27
30	25038.00	25861.76	103290.03

	Sinus	Tangens	Secans
60	97029.57	401078.09	413356.55
59	97022.53	400581.65	412874.87
58	97015.48	400086.36	412394.35
57	97008.42	399592.23	411914.98
56	97001.35	399099.24	411436.75
55	96994.28	398607.39	410959.67
54	96987.20	398116.69	410483.74
53	96980.11	397627.12	410008.93
52	96973.01	397138.68	409535.26
51	96965.90	396651.37	409062.72
50	96958.79	396165.18	408591.30
49	96951.67	395680.11	408121.00
48	96944.54	395196.15	407651.81
47	96937.40	394713.31	407183.74
46	96930.25	394231.57	406716.77
45	96923.09	393750.94	406250.91
44	96915.92	393271.41	405786.15
43	96908.75	392792.97	405322.49
42	96901.57	392315.63	404859.92
41	96894.38	391839.37	404398.44
40	96887.18	391364.20	403938.04
39	96879.98	390890.11	403478.72
38	96872.77	390417.10	403020.48
37	96865.55	389945.16	402563.32
36	96858.32	389474.29	402107.22
35	96851.08	389004.48	401652.19
34	96843.83	388535.74	401198.23
33	96836.57	388068.05	400745.32
32	96829.31	387601.42	400293.47
31	96822.04	387135.84	399842.67
30	96814.76	386671.31	399392.92

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14	*Sinus*	*Tangens*	*Secans*
30	25038.00	25861.76	103290.03
31	25066.16	25892.80	103297.81
32	25094.32	25923.84	103305.59
33	25122.48	25954.88	103313.39
34	25150.63	25985.93	103321.19
35	25178.79	26016.99	103329.01
36	25206.94	26048.05	103336.83
37	25235.08	26079.11	103344.67
38	25263.23	26110.18	103352.51
39	25291.37	26141.26	103360.37
40	25319.52	26172.34	103368.23
41	25347.66	26203.42	103376.11
42	25375.79	26234.51	103383.99
43	25403.93	26265.60	103391.88
44	25432.06	26296.70	103399.79
45	25460.19	26327.80	103407.70
46	25488.32	26358.91	103415.63
47	25516.45	26390.02	103423.56
48	25544.58	26421.14	103431.51
49	25572.70	26452.26	103439.46
50	25600.82	26483.39	103447.43
51	25628.94	26514.52	103455.40
52	25657.05	26545.66	103463.38
53	25685.17	26576.80	103471.38
54	25713.28	26607.94	103479.38
55	25741.39	26639.09	103487.40
56	25769.50	26670.25	103495.42
57	25797.60	26701.41	103503.46
58	25825.70	26732.57	103511.50
59	25853.81	26763.74	103519.55
60	25881.90	26794.92	103527.62

	Sinus	Tangens	Secans
30	96814.76	386671.31	399392.92
29	96807.47	386207.82	398944.21
28	96800.18	385745.37	398496.54
27	96792.88	385283.96	398049.91
26	96785.57	384823.58	397604.31
25	96778.25	384364.24	397159.75
24	96770.92	383905.91	396716.21
23	96763.58	383448.61	396273.69
22	96756.23	382992.33	395832.19
21	96748.88	382537.07	395391.71
20	96741.52	382082.81	394952.24
19	96734.15	381629.57	394513.79
18	96726.77	381177.33	394076.33
17	96719.38	380726.09	393639.88
16	96711.99	380275.85	393204.43
15	96704.59	379826.61	392769.97
14	96697.18	379378.35	392336.51
13	96689.76	378931.09	391904.03
12	96682.33	378484.81	391472.54
11	96674.90	378039.51	391042.03
10	96667.46	377595.19	390612.50
9	96660.01	377151.85	390183.95
8	96652.55	376709.47	389756.37
7	96645.08	376268.07	389329.76
6	96637.60	375827.63	388904.11
5	96630.12	375388.15	388479.43
4	96622.63	374949.63	388055.70
3	96615.13	374512.07	387632.93
2	96607.62	374075.46	387211.12
1	96600.10	373639.80	386790.25
0	96592.58	373205.08	386370.33

15	Sinus	Tangens	Secans
0	25881.90	26794.92	103527.62
1	25910.00	26826.10	103535.69
2	25938.10	26857.28	103543.78
3	25966.19	26888.47	103551.87
4	25994.28	26919.67	103559.98
5	26022.37	26950.87	103568.09
6	26050.45	26982.07	103576.21
7	26078.53	27013.28	103584.35
8	26106.61	27044.49	103592.49
9	26134.69	27075.71	103600.65
10	26162.77	27106.93	103608.81
11	26190.85	27138.16	103616.99
12	26218.92	27169.40	103625.17
13	26246.99	27200.64	103633.37
14	26275.06	27231.88	103641.57
15	26303.12	27263.13	103649.79
16	26331.18	27294.38	103658.01
17	26359.24	27325.64	103666.25
18	26387.30	27356.90	103674.49
19	26415.36	27388.17	103682.75
20	26443.42	27419.44	103691.01
21	26471.47	27450.72	103699.29
22	26499.52	27482.01	103707.57
23	26527.57	27513.30	103715.87
24	26555.61	27544.59	103724.17
25	26583.65	27575.89	103732.49
26	26611.69	27607.19	103740.82
27	26639.73	27638.50	103749.15
28	26667.77	27669.81	103757.50
29	26695.81	27701.13	103765.85
30	26723.84	27732.45	103774.22

	Sinus	Tangens	Secans
60	96592.58	373205.08	386370.33
59	96585.05	372771.31	385951.35
58	96577.51	372338.47	385533.32
57	96569.96	371906.58	385116.22
56	96562.40	371475.61	384700.05
55	96554.83	371045.58	384284.82
54	96547.26	370616.48	383870.51
53	96539.68	370188.30	383457.13
52	96532.09	369761.03	383044.67
51	96524.49	369334.69	382633.13
50	96516.88	368909.27	382222.51
49	96509.27	368484.75	381812.80
48	96501.65	368061.15	381403.99
47	96494.02	367638.45	380996.10
46	96486.38	367216.65	380589.11
45	96478.73	366795.75	380183.01
44	96471.07	366375.75	379777.82
43	96463.41	365956.65	379373.52
42	96455.74	365538.44	378970.11
41	96448.06	365121.11	378567.60
40	96440.37	364704.67	378165.96
39	96432.67	364289.11	377765.22
38	96424.97	363874.44	377365.35
37	96417.26	363460.64	376966.36
36	96409.54	363047.71	376568.24
35	96401.81	362635.66	376171.00
34	96394.07	362224.47	375774.62
33	96386.33	361814.15	375379.11
32	96378.58	361404.69	374984.47
31	96370.82	360996.09	374590.68
30	96363.05	360588.35	374197.75

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15	Sinus	Tangens	Secans
30	26723.84	27732.45	103774.22
31	26751.87	27763.78	103782.60
32	26779.89	27795.12	103790.98
33	26807.92	27826.46	103799.38
34	26835.94	27857.80	103807.79
35	26863.96	27889.15	103816.21
36	26891.98	27920.50	103824.63
37	26920.00	27951.86	103833.07
38	26948.01	27983.22	103841.52
39	26976.02	28014.59	103849.98
40	27004.03	28045.97	103858.44
41	27032.04	28077.35	103866.92
42	27060.04	28108.73	103875.41
43	27088.05	28140.12	103883.91
44	27116.05	28171.52	103892.42
45	27144.04	28202.92	103900.94
46	27172.04	28234.32	103909.47
47	27200.03	28265.73	103918.00
48	27228.02	28297.15	103926.55
49	27256.01	28328.57	103935.11
50	27284.00	28359.99	103943.68
51	27311.98	28391.42	103952.26
52	27339.96	28422.86	103960.85
53	27367.94	28454.30	103969.45
54	27395.92	28485.75	103978.06
55	27423.90	28517.20	103986.69
56	27451.87	28548.66	103995.32
57	27479.84	28580.12	104003.96
58	27507.81	28611.59	104012.61
59	27535.78	28643.06	104021.27
60	27563.74	28674.54	104029.94

	Sinus	Tangens	Secans
30	96363.05	360588.35	374197.75
29	96355.27	360181.46	373805.68
28	96347.48	359775.43	373414.46
27	96339.69	359370.24	373024.09
26	96331.89	358965.90	372634.57
25	96324.08	358562.41	372245.89
24	96316.26	358159.75	371858.05
23	96308.43	357757.94	371471.05
22	96300.59	357356.96	371084.89
21	96292.75	356956.81	370699.56
20	96284.90	356557.49	370315.06
19	96277.04	356159.00	369931.39
18	96269.17	355761.33	369548.54
17	96261.30	355364.49	369166.52
16	96253.42	354968.46	368785.32
15	96245.53	354573.25	368404.93
14	96237.63	354178.86	368025.36
13	96229.72	353785.28	367646.60
12	96221.80	353392.51	367268.65
11	96213.87	353000.54	366891.51
10	96205.94	352609.38	366515.18
9	96198.00	352219.02	366139.64
8	96190.05	351829.46	365764.91
7	96182.09	351440.70	365390.97
6	96174.13	351052.73	365017.83
5	96166.16	350665.55	364645.48
4	96158.18	350279.16	364273.92
3	96150.19	349893.56	363903.15
2	96142.19	349508.74	363533.16
1	96134.18	349124.70	363163.95
0	96126.17	348741.44	362795.53

16	Sinus	Tangens	Secans
0	27563.74	28674.54	104029.94
1	27591.70	28706.02	104038.63
2	27619.65	28737.51	104047.32
3	27647.61	28769.00	104056.02
4	27675.56	28800.50	104064.73
5	27703.52	28832.01	104073.46
6	27731.47	28863.52	104082.19
7	27759.41	28895.03	104090.94
8	27787.36	28926.55	104099.69
9	27815.30	28958 08	104108.45
10	27843:24	28989.61	104117.23
11	27871.18	29021.14	104126.01
12	27899.11	29052.68	104134.81
13	27927.04	29084.23	104143.62
14	27954.97	29115.78	104152.43
15	27982.90	29147.34	104161.26
16	28010.83	29178.90	104170.09
17	28038.75	29210.47	104178.94
18	28066.67	29242.05	104187.80
19	28094.59	29273.63	104196.67
20	28122.51	29305.21	104205.54
21	28150.42	29336.80	104214.43
22	28178.33	29368.39	104223.33
23	28206.24	29399.99	104232.24
24	28234.15	29431.60	104241.16
25	28262.05	29463.21	104250.09
26	28289.95	29494.83	104259.03
27	28317.85	29526.45	104267.98
28	28345.75	29558.08	104276 94
29	28373.64	29589.71	104285.91
30	28401.53	29621.35	104294.89

	Sinus	Tangens	Secans
60	96126.17	348741.44	362795.53
59	96118.15	348358.96	362427.88
58	96110.12	347977.26	362061.01
57	96102.08	347596.32	361694.90
56	96094.03	347216.16	361329.57
55	96085.98	346836.76	360965.01
54	96077.92	346458.13	360601.21
53	96069.85	346080.26	360238.18
52	96061.77	345703.15	359875.90
51	96053.68	345326.79	359514.39
50	96045.58	344951.20	359153.63
49	96037.48	344576.35	358793.62
48	96029.37	344202.26	358434.37
47	96021.25	343828.91	358075.86
46	96013.12	343456.31	357718.10
45	96004.98	343084.46	357361.08
44	95996.84	342713.34	357004.81
43	95988.69	342342.97	356649.28
42	95980.53	341973.33	356294.48
41	95972.36	341604.43	355940.42
40	95964.18	341236.26	355587.10
39	95956.00	340868.82	355234.50
38	95947.81	340502.10	354882.63
37	95939.61	340136.12	354531.49
36	95931.40	339770.85	354181.07
35	95923.18	339406.31	353831.38
34	95914.95	339042.49	353482.4[illegible]
33	95906.72	338679.38	353134.14
32	95898.48	338316.99	352786.60
31	95890.23	337955.31	352439.77
30	95881.97	337594.34	352093.65

16	Sinus	Tangens	Secans
30	28401.53	29621.35	104294.89
31	28429.42	29652.99	104303.88
32	28457.31	29684.64	104312.89
33	28485.20	29716.30	104321.90
34	28513.08	29747.96	104330.92
35	28540.96	29779.62	104339.95
36	28568.84	29811.29	104349.00
37	28596.71	29842.97	104358.05
38	28624.58	29874.65	104367.12
39	28652.45	29906.34	104376.19
40	28680.32	29938.03	104385.28
41	28708.19	29969.73	104394.37
42	28736.05	30001.44	104403.48
43	28763.91	30033.15	104412.59
44	28791.77	30064.86	104421.72
45	28819.63	30096.58	104430.86
46	28847.48	30128.31	104440.01
47	28875.33	30160.04	104449.17
48	28903.18	30191.78	104458.33
49	28931.03	30223.52	104467.51
50	28958.87	30255.27	104476.70
51	28986.71	30287.03	104485.90
52	29014.55	30318.79	104495.11
53	29042.39	30350.55	104504.33
54	29070.22	30382.32	104513.57
55	29098.05	30414.10	104522.81
56	29125.88	30445.88	104532.06
57	29153.71	30477.67	104541.32
58	29181.53	30509.46	104550.60
59	29209.35	30541.26	104559.88
60	29237.17	30573.07	104569.18

	Sinus	Tangens	Secans
30	95881.97	337594.34	352093.65
29	95873.70	337234.08	351748.24
28	95865.43	336874.53	351403.54
27	95857.15	336515.68	351059.54
26	95848.86	336157.53	350716.25
25	95840.56	335800.08	350373.65
24	95832.25	335443.33	350031.75
23	95823.94	335087.28	349690.55
22	95815.62	334731.91	349350.04
21	95807.29	334377.24	349010.23
20	95798.95	334023.26	348671.10
19	95790.60	333669.97	348332.67
18	95782.25	333317.36	347994.92
17	95773.89	332965.43	347657.85
16	95765.52	332614.19	347321.46
15	95757.14	332263.62	346985.76
14	95748.75	331913.73	346650.73
13	95740.35	331564.52	346316.37
12	95731.95	331215.98	345982.69
11	95723.54	330868.11	345649.69
10	95715.12	330520.91	345317.35
9	95706.69	330174.38	344985.68
8	95698.25	329828.51	344654.67
7	95689.81	329483.30	344324.33
6	95681.36	329138.76	343994.65
5	95672.90	328794.87	343665.63
4	95664.43	328451.64	343337.27
3	95655.95	328109.07	343009.56
2	95647.47	327767.15	342682.51
1	95638.98	327425.88	342356.11
0	95630.48	327085.26	342030.36

17	Sinus	Tangens	Secans
0	29237.17	30573.07	104569.18
1	29264.99	30604.88	104578.48
2	29292.80	30636.69	104587.80
3	29320.61	30668.51	104597.12
4	29348.42	30700.34	104606.46
5	29376.23	30732.18	104615.81
6	29404.03	30764.02	104625.16
7	29431.83	30795.86	104634.53
8	29459.63	30827.71	104643.91
9	29487.43	30859.57	104653.30
10	29515.22	30891.43	104662.70
11	29543.01	30923.30	104672.11
12	29570.80	30955.17	104681.53
13	29598.59	30987.05	104690.96
14	29626.38	31018.93	104700.40
15	29654.16	31050.82	104709.86
16	29681.94	31082.72	104719.32
17	29709.71	31114.62	104728.79
18	29737.49	31146.53	104738.28
19	29765.26	31178.44	104747.77
20	29793.03	31210.36	104757.28
21	29820.79	31242.29	104766.79
22	29848.56	31274.22	104776.32
23	29876.32	31306.16	104785.86
24	29904.08	31338.10	104795.40
25	29931.84	31370.05	104804.96
26	29959.59	31402.00	104814.53
27	29987.34	31433.96	104824.11
28	30015.09	31465.93	104833.70
29	30042.84	31497.90	104843.30
30	30070.58	31529.88	104852.91

	Sinus	Tangens	Secans
60	95630.48	327085.26	342030.36
59	95621.97	326745.29	341705.26
58	95613.45	326405.96	341380.80
57	95604.92	326067.28	341056.99
56	95596.39	325729.24	340733.82
55	95587.85	325391.84	340411.30
54	95579.30	325055.08	340089.41
53	95570.74	324718.95	339768.16
52	95562.17	324383.46	339447.54
51	95553.60	324048.60	339127.55
50	95545.02	323714.38	338808.20
49	95536.43	323380.78	338489.48
48	95527.83	323047.80	338171.38
47	95519.22	322715.46	337853.91
46	95510.61	322383.73	337537.07
45	95501.99	322052.63	337220.84
44	95493.36	321722.15	336905.24
43	95484.72	321392.28	336590.26
42	95476.07	321063.04	336275.89
41	95467.42	320734.40	335962.14
40	95458.76	320406.38	335649.00
39	95450.09	320078.97	335336.47
38	95441.41	319752.17	335024.55
37	95432.72	319425.98	334713.24
36	95424.03	319100.39	334402.54
35	95415.33	318775.40	334092.44
34	95406.62	318451.02	333782.94
33	95397.90	318127.24	333474.05
32	95389.17	317804.06	333165.75
31	95380.43	317481.47	332858.05
30	95371.69	317159.48	332550.95

17	Sinus	Tangens	Secans
30	30070.58	31529.88	104852.91
31	30098.32	31561.86	104862.53
32	30126.06	31593.85	104872.17
33	30153.80	31625.85	104881.81
34	30181.53	31657.85	104891.46
35	30209.26	31689.86	104901.13
36	30236.99	31721.87	104910.80
37	30264.71	31753.89	104920.49
38	30292.44	31785.91	104930.19
39	30320.16	31817.94	104939.89
40	30347.88	31849.98	104949.61
41	30375.59	31882.02	104959.34
42	30403.31	31914.07	104969.08
43	30431.02	31946.13	104978.83
44	30458 72	31978.19	104988.59
45	30486.43	32010.25	104998.36
46	30514.13	32042.32	105008.15
47	30541.83	32074.40	105017.94
48	30569.53	32106.49	105027.74
49	30597.23	32138.58	105037.56
50	30624.92	32170.67	105047.38
51	30652.61	32202.77	105057.22
52	30680.29	32234.88	105067.06
53	30707.98	32267.00	105076.92
54	30735.66	32299.12	105086.79
55	30763.34	32331.25	105096.67
56	30791.02	32363.38	105106.56
57	30818.69	32395.52	105116.46
58	30846.36	32427.66	105126.37
59	30874.03	32459.81	105136.29
60	30901.70	32491.97	105146.22

	Sinus	Tangens	Secans
30	95371.69	317159.48	332550.95
29	95362.94	316838.08	332244.44
28	95354.18	316517.28	331938.53
27	95345.41	316197.06	331633.20
26	95336.64	315877.44	331328.47
25	95327.86	315558.40	331024.32
24	95319.07	315239.94	330720.76
23	95310.27	314922.07	330417.78
22	95301.46	314604.78	330115.39
21	95292.64	314288.07	329813.57
20	95283.82	313971.94	329512.34
19	95274.99	313656.39	329211.68
18	95266.15	313341.41	328911.60
17	95257.30	313027.01	328612.09
16	95248.44	312713.17	328313.16
15	95239.58	312399.91	328014.79
14	95230.71	312087.22	327717.00
13	95221.83	311775.09	327419.77
12	95212.94	311463.53	327123.11
11	95204.04	311152.54	326827.02
10	95195.14	310842.10	326531.49
9	95186.23	310532.23	326236.52
8	95177.31	310222.91	325942.11
7	95168.38	309914.16	325648.25
6	95159.44	309605.96	325354.96
5	95150.49	309298.31	325062.22
4	95141.54	308991.22	324770.03
3	95132.58	308684.68	324478.40
2	95123.61	308378.69	324187.32
1	95114.63	308073.25	323896.78
0	95105.65	307768.35	323606.80

18	*Sinus*	*Tangens*	*Secans*
0	30901.70	32491.97	105146.22
1	30929.36	32524.13	105156.17
2	30957.02	32556.30	105166.12
3	30984.68	32588.48	105176.08
4	31012.34	32620.66	105186.06
5	31039.99	32652.85	105196.05
6	31067.64	32685.04	105206.04
7	31095.29	32717.24	105216.05
8	31122.94	32749.44	105226.07
9	31150.58	32781.65	105236.10
10	31178.22	32813.87	105246.14
11	31205.86	32846.10	105256.19
12	31233.49	32878.33	105266.25
13	31261.12	32910.56	105276.33
14	31288.75	32942.80	105286.41
15	31316.38	32975.05	105296.51
16	31344.00	33007.31	105306.61
17	31371.63	33039.57	105316.73
18	31399.25	33071.84	105326.86
19	31426.86	33104.11	105336.99
20	31454.48	33136.39	105347.14
21	31482.09	33168.68	105357.30
22	31509.69	33200.97	105367.47
23	31537.30	33233.27	105377.65
24	31564.90	33265.57	105387.85
25	31592.50	33297.88	105398.05
26	31620.10	33330.20	105408.26
27	31647.70	33362.52	105418.49
28	31675.29	33394.85	105428.73
29	31702.88	33427.19	105438.97
30	31730.47	33459.53	105449.23

	Sinus	Tangens	Secans
60	95105.65	307768.35	323606.80
59	95096.66	307464.00	323317.36
58	95087.66	307160.20	323028.46
57	95078.65	306856.93	322740.11
56	95069.63	306554.21	322452.30
55	95060.60	306252.03	322165.03
54	95051.57	305950.38	321878.30
53	95042.53	305649.28	321592.10
52	95033.48	305348.70	321306.44
51	95024.42	305048.66	321021.32
50	95015.36	304749.15	320736.73
49	95006.29	304450.18	320452.66
48	94997.21	304151.73	320169.13
47	94988.12	303853.81	319886.13
46	94979.02	303556.41	319603.65
45	94969.91	303259.54	319321.70
44	94960.80	302963.20	319040.28
43	94951.68	302667.37	318759.37
42	94942.55	302372.07	318478.99
41	94933.41	302077.28	318199.13
40	94924.26	301783.01	317919.78
39	94915.11	301489.26	317640.95
38	94905.95	301196.02	317362.64
37	94896.78	300903.30	317084.84
36	94887.60	300611.09	316807.56
35	94878.41	300319.39	316530.78
34	94869.22	300028.20	316254.52
33	94860.02	299737.51	315978.76
32	94850.81	299447.34	315703.51
31	94841.59	299157.66	315428.77
30	94832.36	298868.50	315154.53

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18	Sinus	Tangens	Secans
30	31730.47	33459.53	105449.23
31	31758.05	33491.88	105459.50
32	31785.63	33524.24	105469.78
33	31813.21	33556.60	105480.07
34	31840.79	33588.97	105490.37
35	31868.36	33621.34	105500.68
36	31895.93	33653.72	105511.01
37	31923.50	33686.11	105521.34
38	31951.06	33718.50	105531.69
39	31978.63	33750.90	105542.04
40	32006.19	33783.30	105552.41
41	32033.74	33815.71	105562.79
42	32061.30	33848.13	105573.18
43	32088.85	33880.56	105583.58
44	32116.4	33912.99	105593.99
45	32143.95	33945.4	105604.41
46	32171.49	33977.87	105614.85
47	32199.03	34010.32	105625.29
48	32226.57	34042.78	105635.75
49	32254.10	34075.24	105646.21
50	32281.64	34107.71	105656.69
51	32309.17	34140.19	105667.18
52	32336.70	34172.67	105677.68
53	32364.22	34205.16	105688.19
54	32391.74	34237.65	105698.71
55	32419.26	34270.15	105709.24
56	32446.78	34302.66	105719.78
57	32474.29	34335.18	105730.34
58	32501.80	34367.70	105740.90
59	32529.31	34400.23	105751.48
60	32556.82	34432.76	105762.07

	Sinus	*Tangens*	*Secans*
30	94832.36	298868.50	315154.53
29	94823.13	298579.83	314880.79
28	94813.89	298291.66	314607.56
27	94804.64	298004.00	314334.83
26	94795.38	297716.83	314062.59
25	94786.11	297430.16	313790.86
24	94776.84	297143.99	313519.62
23	94767.56	296858.31	313248.87
22	94758.27	296573.12	312978.62
21	94748.97	296288.42	312708.86
20	94739.66	296004.22	312439.59
19	94730.35	295720.50	312170.81
18	94721.03	295437.27	311902.52
17	94711.70	295154.53	311634.72
16	94702.36	294872.27	311367.40
15	94693.01	294590.50	311100.57
14	94683.66	294309.21	310834.22
13	94674.30	294028.40	310568.35
12	94664.93	293748.07	310302.96
11	94655.55	293468.22	310038.05
10	94646.16	293188.85	309773.63
9	94636.76	292909.95	309509.67
8	94627.36	292631.52	309246.20
7	94617.95	292353.58	308983.19
6	94608.53	292076.10	308720.66
5	94599.10	291799.09	308458.60
4	94589.67	291522.56	308197.02
3	94580.23	291246.49	307935.90
2	94570.78	290970.89	307675.25
1	94561.32	290695.76	307415.07
0	94551.85	290421.09	307155.35
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19	Sinus	Tangens	Secans
0	32556.82	34432.76	105762.07
1	32584.32	34465.30	105772.67
2	32611.82	34497.85	105783.28
3	32639.31	34530.40	105793.90
4	32666.81	34562.96	105804.53
5	32694.30	34595.53	105815.17
6	32721.79	34628.10	105825.83
7	32749.28	34660.68	105836.49
8	32776.76	34693.27	105847.17
9	32804.24	34725.86	105857.86
10	32831.72	34758.46	105868.55
11	32859.19	34791.07	105879.26
12	32886.66	34823.68	105889.99
13	32914.13	34856.30	105900.72
14	32941.60	34888.93	105911.46
15	32969.06	34921.56	105922.21
16	32996.52	34954.20	105932.98
17	33023.98	34986.85	105943.76
18	33051.44	35019.50	105954.54
19	33078.89	35052.16	105965.34
20	33106.34	35084.83	105976.15
21	33133.79	35117.50	105986.97
22	33161.23	35150.18	105997.81
23	33188.67	35182.87	106008.65
24	33216.11	35215.56	106019.51
25	33243.55	35248.26	106030.37
26	33270.98	35280.97	106041.25
27	33298.41	35313.68	106052.14
28	33325.84	35346.40	106063.04
29	33353.27	35379.13	106073.95
30	33380.69	35411.86	106084.87

	Sinus	Tangens	Secans
60	94551.85	290421.09	307155.35
59	94542.38	290146.88	306896.10
58	94532.90	289873.14	306637.31
57	94523.41	289599.86	306378.98
56	94513.91	289327.04	306121.11
55	94504.40	289054.67	305863.70
54	94494.89	288782.77	305606.75
53	94485.37	288511.32	305350.26
52	94475.84	288240.33	305094.23
51	94466.30	287969.79	304838.64
50	94456.75	287699.70	304583.52
49	94447.20	287430.07	304328.84
48	94437.64	287160.88	304074.62
47	94428.07	286892.15	303820.84
46	94418.49	286623.86	303567.52
45	94408.90	286356.02	303314.64
44	94399.31	286088.63	303062.21
43	94389.71	285821.68	302810.23
42	94380.10	285555.17	302558.68
41	94370.48	285289.11	302307.59
40	94360.85	285023.49	302056.93
39	94351.21	284758.31	301806.72
38	94341.57	284493.56	301556.94
37	94331.92	284229.26	301307.60
36	94322.26	283965.39	301058.70
35	94312.60	283701.96	300810.24
34	94302.93	283438.96	300562.21
33	94293.25	283176.39	300314.62
32	94283.56	282914.26	300067.46
31	94273.86	282652.56	299820.73
30	94264.15	282391.29	299574.43

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19	Sinus	Tangens	Secans
30	33380.69	35411.86	106084.87
31	33408.10	35444.60	106095.80
32	33435.52	35477.35	106106.75
33	33462.93	35510.10	106117.70
34	33490.34	35542.86	106128.67
35	33517.75	35575.63	106139.65
36	33545.16	35608.40	106150.64
37	33572.56	35641.18	106161.64
38	33599.96	35673.97	106172.65
39	33627.35	35706.76	106183.67
40	33654.75	35739.56	106194.71
41	33682.14	35772.37	106205.75
42	33709.53	35805.18	106216.81
43	33736.91	35838.00	106227.88
44	33764.29	35870.83	106238.96
45	33791.67	35903.67	106250.05
46	33819.05	35936.51	106261.15
47	33846.42	35969.36	106272.27
48	33873.79	36002.22	106283.39
49	33901.16	36035.08	106294.53
50	33928.53	36067.95	106305.68
51	33955.89	36100.83	106316.84
52	33983.25	36133.71	106328.01
53	34010.60	36166.60	106339.19
54	34037.95	36199.50	106350.38
55	34065.30	36232.40	106361.58
56	34092.65	36265.31	106372.80
57	34120.00	36298.23	106384.03
58	34147.34	36331.15	106395.27
59	34174.68	36364.08	106406.52
60	34202.02	36397.02	106417.78

	Sinus	*Tangens*	*Secans*
30	94264.15	282391.29	299574.43
29	94254.43	282130.45	299328.56
28	94244.71	281870.03	299083.12
27	94234.98	281610.04	298838.11
26	94225.24	281350.48	298593.52
25	94215.50	281091.34	298349.36
24	94205.75	280832.63	298105.63
23	94195.99	280574.33	297862.31
22	94186.22	280316.46	297619.42
21	94176.44	280059.01	297376.95
20	94166.65	279801.98	297134.90
19	94156.85	279545.37	296893.27
18	94147.05	279289.17	296652.05
17	94137.24	279033.39	296411.25
16	94127.42	278778.02	296170.87
15	94117.60	278523.07	295930.90
14	94107.77	278268.53	295691.35
13	94097.93	278014.40	295452.21
12	94088.08	277760.69	295213.48
11	94078.22	277507.38	294975.16
10	94068.35	277254.48	294737.25
9	94058.48	277001.99	294499.75
8	94048.60	276749.90	294262.65
7	94038.71	276498.22	294025.97
6	94028.81	276246.95	293789.68
5	94018.90	275996.08	293553.80
4	94008.99	275745.61	293318.33
3	93999.07	275495.54	293083.26
2	93989.14	275245.88	292848.58
1	93979.20	274996.61	292614.31
0	93969.26	274747.74	292380.44

20	*Sinus*	*Tangens*	*Secans*
0	34202.02	36397.02	106417.78
1	34229.35	36429.97	106429.05
2	34256.68	36462.92	106440.33
3	34284.01	36495.88	106451.63
4	34311.33	36528.85	106462.94
5	34338.65	36561.82	106474.26
6	34365.97	36594.80	106485.59
7	34393.29	36627.79	106496.93
8	34420.60	36660.79	106508.28
9	34447.91	36693.79	106519.64
10	34475.22	36726.80	106531.01
11	34502.52	36759.82	106542.40
12	34529.82	36792.84	106553.80
13	34557.12	36825.87	106565.21
14	34584.42	36858.91	106576.63
15	34611.71	36891.95	106588.07
16	34639.00	36925.00	106599.51
17	34666.29	36958.06	106610.97
18	34693.57	36991.13	106622.43
19	34720.85	37024.20	106633.91
20	34748.13	37057.28	106645.40
21	34775.40	37090.37	106656.90
22	34802.67	37123.46	106668.42
23	34829.94	37156.56	106679.94
24	34857.21	37189.67	106691.48
25	34884.47	37222.78	106703.02
26	34911.73	37255.90	106714.58
27	34938.99	37289.03	106726.15
28	34966.24	37322.17	106737.74
29	34993.49	37355.32	106749.34
30	35020.74	37388.47	106760.94

	Sinus	*Tangens*	*Secans*
60	93969.26	274747.74	292380.44
59	93959.31	274499.27	292146.97
58	93949.35	274251.20	291913.89
57	93939.38	274003.52	291681.21
56	93929.40	273756.23	291448.92
55	93919.42	273509.34	291217.03
54	93909.43	273262.84	290985.53
53	93899.43	273016.74	290754.43
52	93889.42	272771.02	290523.72
51	93879.40	272525.69	290293.39
50	93869.37	272280.75	290063.46
49	93859.34	272036.20	289833.91
48	93849.30	271792.04	289604.75
47	93839.25	271548.26	289375.98
46	93829.19	271304.87	289147.60
45	93819.13	271061.86	288919.59
44	93809.06	270819.23	288691.98
43	93798.98	270576.99	288464.74
42	93788.89	270335.13	288237.89
41	93778.79	270093.64	288011.42
40	93768.69	269852.54	287785.32
39	93758.58	269611.81	287559.61
38	93748.46	269371.47	287334.28
37	93738.33	269131.49	287109.32
36	93728.19	268891.90	286884.74
35	93718.05	268652.67	286660.53
34	93707.90	268413.83	286436.70
33	93697.74	268175.35	286213.24
32	93687.57	267937.25	285990.15
31	93677.40	267699.51	285767.44
30	93667.22	267462.15	285545.99

20	*Sinus*	*Tangens*	*Secans*
30	35020.74	37388.47	106760.94
31	35047.99	37421.63	106772.55
32	35075.23	37454.79	106784.18
33	35102.47	37487.97	106795.82
34	35129.70	37521.15	106807.47
35	35156.93	37554.34	106819.14
36	35184.16	37587.53	106830.81
37	35211.39	37620.73	106842.50
38	35238.62	37653.94	106854.20
39	35265.84	37687.16	106865.91
40	35293.06	37720.38	106877.63
41	35320.27	37753.61	106889.36
42	35347.48	37786.85	106901.10
43	35374.69	37820.10	106912.86
44	35401.90	37853.35	106924.63
45	35429.10	37886.61	106936.41
46	35456.30	37919.88	106948.20
47	35483.50	37953.16	106960.00
48	35510.70	37986.44	106971.82
49	35537.89	38019.73	106983.64
50	35565.08	38053.03	106995.48
51	35592.26	38086.33	107007.33
52	35619.44	38119.64	107019.19
53	35646.62	38152.96	107031.06
54	35673.80	38186.29	107042.95
55	35700.97	38219.62	107054.84
56	35728.14	38252.96	107066.75
57	35755.31	38286.31	107078.67
58	35782.48	38319.67	107090.60
59	35809 64	38353.03	107102.54
60	35836.79	38386.40	107114.50

Sinus	Tangens	Secans
93667.22	267462.15	285545.09
93657.03	267225.16	285323.12
93646.83	266988.53	285101.52
93636.62	266752.27	284880.28
93626.40	266516.38	284659.41
93616.18	266280.85	284438.91
93605.95	266045.69	284218.77
93595.71	265810.89	283998.99
93585.46	265576.45	283779.58
93575.21	265342.38	283560.54
93564.95	265108.67	283341.85
93554.68	264875.31	283123.53
93544.40	264642.32	282905.56
93534.11	264409.69	282687.96
93523.82	264177.41	282470.71
93513.52	263945.49	282253.82
93503.21	263713.92	282037.29
93492.89	263482.71	281821.11
93482.56	263251.86	281605.29
93472.23	263021.36	281389.82
93461.89	262791.21	281174.71
93451.54	262561.41	280959.95
93441.18	262331.96	280745.54
93430.82	262102.86	280531.48
93420.45	261874.11	280317.77
93410.07	261645.71	280104.41
93399.68	261417.66	279891.40
93389.28	261189.95	279678.73
93378.87	260962.59	279466.41
93368.46	260735.58	279254.44
93358.04	260508.91	279042.81

20	Sinus	Tangens	Secans
30	35020.74	37388.47	106760.94
31	35047.99	37421.63	106772.55
32	35075.23	37454.79	106784.18
33	35102.47	37487.97	106795.82
34	35129.70	37521.15	106807.47
35	35156.93	37554.34	106819.14
36	35184.16	37587.53	106830.81
37	35211.39	37620.73	106842.50
38	35238.62	37653.94	106854.20
39	35265.84	37687.16	106865.91
40	35293.06	37720.38	106877.63
41	35320.27	37753.61	106889.36
42	35347.48	37786.85	106901.10
43	35374.69	37820.10	106912.86
44	35401.90	37853.35	106924.63
45	35429.10	37886.61	106936.41
46	35456.30	37919.88	106948.20
47	35483.50	37953.16	106960.00
48	35510.70	37986.44	106971.82
49	35537.89	38019.73	106983.64
50	35565.08	38053.03	106995.48
51	35592.26	38086.33	107007.33
52	35619.44	38119.64	107019.19
53	35646.62	38152.96	107031.06
54	35673.80	38186.29	107042.95
55	35700.97	38219.62	107054.84
56	35728.14	38252.96	107066.75
57	35755.31	38286.31	107078.67
58	35782.48	38319.67	107090.60
59	35809.64	38353.03	107102.54
60	35836.79	38386.40	107114.50

	Sinus	Tangens	Secans
	93667.22	267462.15	285545.09
	93657.03	267225.16	285323.12
	93646.83	266988.53	285101.52
	93636.62	266752.27	284880.28
	93626.40	266516.38	284659.41
	93616.18	266280.85	284438.91
	93605.95	266045.69	284218.77
	93595.71	265810.89	283998.99
	93585.46	265576.45	283779.58
	93575.21	265342.38	283560.54
	93564.95	265108.67	283341.85
	93554.68	264875.31	283123.53
8	93544.40	264642.32	282905.56
7	93534.11	264409.69	282687.96
6	93523.82	264177.41	282470.71
5	93513.52	263945.49	282253.82
4	93503.21	263713.92	282037.29
3	93492.89	263482.71	281821.11
2	93482.56	263251.86	281605.29
1	93472.23	263021.36	281389.82
0	93461.89	262791.21	281174.71
9	93451.54	262561.41	280959.95
8	93441.18	262331.96	280745.54
7	93430.82	262102.86	280531.48
6	93420.45	261874.11	280317.77
5	93410.07	261645.71	280104.41
4	93399.68	261417.66	279891.40
3	93389.28	261189.95	279678.73
2	93378.87	260962.59	279466.41
1	93368.46	260735.58	279254.44
0	93358.04	260508.91	279042.81

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21	*Sinus*	*Tangens*	*Secans*
0	35836.79	38386.40	107114.50
1	35863.95	38419.78	107126.47
2	35891.10	38453.17	107138.44
3	35918.25	38486.56	107150.43
4	35945.40	38519.96	107162.44
5	35972.54	38553.37	107174.45
6	35999.68	38586.79	107186.47
7	36026.82	38620.21	107198.51
8	36053.95	38653.64	107210.56
9	36081.08	38687.08	107222.62
10	36108.21	38720.53	107234.69
11	36135.33	38753.98	107246.78
12	36162.46	38787.44	107258.87
13	36189.58	38820.91	107270.98
14	36216.69	38854.39	107283.10
15	36243.80	38887.87	107295.23
16	36270.91	38921.36	107307.37
17	36298.02	38954.86	107319.53
18	36325.12	38988.37	107331.70
19	36352.22	39021.89	107343.88
20	36379.32	39055.41	107356.07
21	36406.41	39088.94	107368.27
22	36433.50	39122.48	107380.48
23	36460.59	39156.02	107392.71
24	36487.68	39189.57	107404.95
25	36514.76	39223.13	107417.20
26	36541.84	39256.70	107429.46
27	36568.92	39290.28	107441.73
28	36595.99	39323.86	107454.02
29	36623.06	39357.45	107466.31
30	36650.13	39391.05	107478.62

Sinus	*Tangens*	*Secans*
93358.04	260508.91	279042.81
93347.61	260282.58	278831.53
93337.17	260056.59	278620.59
93326.73	259830.95	278409.99
93316.28	259605.64	278199.73
93305.82	259380.68	277989.82
93295.35	259156.06	277780.24
93284.87	258931.77	277571.00
93274.39	258707.82	277362.11
93263.90	258484.21	277153.55
93253.40	258260.94	276945.32
93242.89	258038.00	276737.43
93232.38	257815.39	276529.88
93221.86	257593.12	276322.66
93211.33	257371.18	276115.78
93200.79	257149.57	275909.23
93190.24	256928.30	275703.01
93179.68	256707.35	275497.12
93169.12	256486.74	275291.57
93158.55	256266.45	275086.34
93147.97	256046.49	274881.44
93137.38	255826.86	274676.87
93126.79	255607.56	274472.63
93116.19	255388.58	274268.71
93105.58	255169.92	274065.12
93094.96	254951.60	273861.86
93084.33	254733.59	273658.92
93073.70	254515.91	273456.30
93063.06	254298.55	273254.00
93052.41	254081.51	273052.03
93041.75	253864.79	272850.38

21	*Sinus*	*Tangens*	*Secans*
30	36650.13	39391.05	107478.62
31	36677.19	39424.66	107490.95
32	36704.25	39458.27	107503.28
33	36731.31	39491.89	107515.62
34	36758.36	39525.52	107527.98
35	36785.41	39559.16	107540.35
36	36812.46	39592.80	107552.73
37	36839.50	39626.45	107565.12
38	36866.54	39660.11	107577.53
39	36893.58	39693.78	107589.95
40	36920.62	39727.46	107602.37
41	36947.65	39761.14	107614.81
42	36974.68	39794.83	107627.27
43	37001.70	39828.53	107639.73
44	37028.72	39862.24	107652.21
45	37055.74	39895.96	107664.70
46	37082.76	39929.68	107677.20
47	37109.77	39963.41	107689.71
48	37136.78	39997.15	107702.24
49	37163.79	40030.89	107714.77
50	37190.80	40064.65	107727.32
51	37217.80	40098.41	107739.88
52	37244.80	40132.18	107752.46
53	37271 79	40165.96	107765.04
54	37298.78	40199.75	107777.64
55	37325.77	40233.54	107790.25
56	37352.75	40267.34	107802.87
57	37379.73	40301.15	107815.50
58	37406.71	40334.97	107828.15
59	37433.69	40368.79	107840.80
60	37460.66	40402.62	107853.47

	Sinus	*Tangens*	*Secans*
30	93041.75	253864.79	272850.38
29	93031.09	253648.39	272649.05
28	93020.42	253432.31	272448.04
27	93009.74	253216.55	272247.35
26	92999.05	253001.11	272046.98
25	92988.35	252785.98	271846.93
24	92977.65	252571.17	271647.19
23	92966.94	252356.67	271447.77
22	92956.22	252142.49	271248.66
21	92945.49	251928.63	271049.87
20	92934.75	251715.07	270851.39
19	92924.01	251501.83	270653.23
18	92913.26	251288.90	270455.38
17	92902.50	251076.29	270257.84
16	92891.73	250863.98	270060.61
15	92880.95	250651.98	269863.70
14	92870.17	250440.29	269667.09
13	92859.38	250228.91	269470.79
12	92848.58	250017.84	269274.80
11	92837.77	249807.07	269079.12
10	92826.96	249596.61	268883.74
9	92816.14	249386.45	268688.67
8	92805.31	249176.60	268493.91
7	92794.47	248967.06	268299.45
6	92783.62	248757.81	268105.30
5	92772.77	248548.87	267911.45
4	92761.91	248340.23	267717.90
3	92751.04	248131.90	267524.65
2	92740.16	247923.86	267331.70
1	92729.28	247716.12	267139.06
0	92718.39	247508.69	266946.72

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22	*Sinus*	*Tangens*	*Secans*
0	37460.66	40402.62	107853.47
1	37487.63	40436.46	107866.16
2	37514.59	40470.31	107878.85
3	37541.56	40504.17	107891.56
4	37568.52	40538.04	107904.27
5	37595.47	40571.91	107917.00
6	37622.43	40605.79	107929.75
7	37649.38	40639.68	107942.50
8	37676.32	40673.58	107955.27
9	37703.27	40707.48	107968.05
10	37730.21	40741.39	107980.84
11	37757.14	40775.31	107993.64
12	37784.08	40809.24	108006.46
13	37811.01	40843.18	108019.28
14	37837.94	40877.13	108032.12
15	37864.86	40911.08	108044.97
16	37891.78	40945.04	108057.84
17	37918.70	40979.01	108070.71
18	37945.62	41012.99	108083.60
19	37972.53	41046.97	108096.50
20	37999.44	41080.97	108109.42
21	38026.34	41114.97	108122.34
22	38053.24	41148.98	108135.28
23	38080.14	41183.00	108148.23
24	38107.04	41217.03	108161.19
25	38133.93	41251.06	108174.17
26	38160.82	41285.10	108187.15
27	38187.70	41319.15	108200.15
28	38214.59	41353.21	108213.16
29	38241.47	41387.28	108226.18
30	38268.34	41421.36	108239.22

	Sinus	Tangens	Secans
60	92718.39	247508.69	266946.72
59	92707.49	247301.55	266754.67
58	92696.58	247094.70	266562.92
57	92685.66	246888.16	266371.48
56	92674.73	246681.91	266180.33
55	92663.80	246475.96	265989.47
54	92652.86	246270.30	265798.91
53	92641.91	246064.94	265608.65
52	92630.96	245859.87	265418.68
51	92620.00	245655.09	265229.01
50	92609.03	245450.61	265039.62
49	92598.05	245246.42	264850.54
48	92587.06	245042.52	264661.74
47	92576.06	244838.91	264473.23
46	92565.06	244635.59	264285.02
45	92554.05	244432.56	264097.09
44	92543.03	244229.82	263909.46
43	92532.00	244027.36	263722.11
42	92520.97	243825.19	263535.05
41	92509.93	243623.31	263348.28
40	92498.88	243421.72	263161.80
39	92487.82	243220.41	262975.60
38	92476.75	243019.38	262789.69
37	92465.68	242818.64	262604.06
36	92454.60	242618.19	262418.72
35	92443.51	242418.01	262233.66
34	92432.41	242218.12	262048.88
33	92421.31	242018.51	261864.39
32	92410.20	241819.18	261680.18
31	92399.08	241620.13	261496.24
30	92387.95	241421.36	261312.59

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22	Sinus	Tangens	Secans
30	38268.34	41421.36	108239.22
31	38295.22	41455.44	108252.27
32	38322.09	41489.53	108265.33
33	38348.95	41523.63	108278.40
34	38375.82	41557.74	108291.49
35	38402.68	41591.86	108304.58
36	38429.53	41625.99	108317.69
37	38456.39	41660.12	108330.81
38	38483.24	41694.26	108343.95
39	38510.08	41728.41	108357.09
40	38536.93	41762.57	108370.25
41	38563.77	41796.74	108383.42
42	38590.60	41830.91	108396.61
43	38617.44	41865.09	108409.80
44	38644.27	41899.28	108423.01
45	38671.10	41933.48	108436.23
46	38697.92	41967.69	108449.47
47	38724.74	42001.91	108462.71
48	38751.56	42036.13	108475.97
49	38778.37	42070.36	108489.24
50	38805.18	42104.60	108502.52
51	38831.99	42138.85	108515.82
52	38858.80	42173.11	108529.13
53	38885.60	42207.38	108542.45
54	38912.39	42241.66	108555.78
55	38939.19	42275.94	108569.12
56	38965.98	42310.23	108582.48
57	38992.77	42344.53	108595.85
58	39019.55	42378.84	108609.24
59	39046.33	42413.16	108622.63
60	39073.11	42447.49	108636.04

	Sinus	Tangens	Secans
	92387.95	241421.36	261312.59
	92376.81	241222.86	261129.22
	92365.67	241024.65	260946.13
	92354.52	240826.72	260763.32
	92343.36	240629.06	260580.78
	92332.19	240431.68	260398.52
	92321.02	240234.57	260216.54
	92309.84	240037.74	260034.84
	92298.65	239841.18	259853.41
	92287.45	239644.90	259672.25
	92276.24	239448.89	259491.37
9	92265.03	239253.16	259310.77
8	92253.81	239057.69	259130.43
7	92242.58	238862.50	258950.37
6	92231.34	238667.58	258770.58
5	92220.09	238472.93	258591.07
4	92208.84	238278.55	258411.82
3	92197.58	238084.44	258232.84
2	92186.31	237890.60	258054.14
11	92175.03	237697.03	257875.70
10	92163.75	237503.72	257697.53
9	92152.46	237310.68	257519.63
8	92141.16	237117.91	257341.99
7	92129.85	236925.40	257164.62
6	92118.54	236733.16	256987.52
5	92107.22	236541.18	256810.69
4	92095.89	236349.46	256634.12
3	92084.55	236158.01	256457.81
2	92073.20	235966.83	256281.76
1	92061.85	235775.90	256105.99
0	92050.49	235585.24	255930.47

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23	*Sinus*	*Tangens*	*Secans*
0	39073.11	42447.49	108636.04
1	39099.89	42481.82	108649.46
2	39126.66	42516.16	108662.89
3	39153.43	42550.51	108676.34
4	39180.19	42584.87	108689.79
5	39206.95	42619.24	108703.26
6	39233.71	42653.62	108716.75
7	39260.47	42688.00	108730.24
8	39287.22	42722.39	108743.75
9	39313.97	42756.79	108757.27
10	39340.71	42791.20	108770.80
11	39367.45	42825.62	108784.35
12	39394.19	42860.05	108797.91
13	39420.93	42894.49	108811.48
14	39447.66	42928.94	108825.06
15	39474.39	42963.39	108838.66
16	39501.11	42997.85	108852.27
17	39527.83	43032.32	108865.89
18	39554.55	43066.80	108879.52
19	39581.27	43101.29	108893.17
20	39607.98	43135.79	108906.83
21	39634.69	43170.30	108920.50
22	39661.39	43204.81	108934.18
23	39688.09	43239.33	108947.88
24	39714.79	43273.86	108961.59
25	39741.48	43308.40	108975.31
26	39768.17	43342.95	108989.04
27	39794.86	43377.51	109002.79
28	39821.55	43412.08	109016.55
29	39848.23	43446.66	109030.32
30	39874.91	43481.24	109044.11

	Sinus	Tangens	Secans
	92050.49	235585.24	255930.47
	92039.12	235394.83	255755.21
	92027.74	235204.69	255580.22
	92016.35	235014.81	255405.48
	92004.96	234825.19	255231.01
	91993.56	234635.82	255056.80
	91982.15	234446.72	254882.84
	91970.73	234257.87	254709.15
	91959.31	234069.28	254535.71
1	91947.88	233880.95	254362.53
0	91936.44	233692.87	254189.61
9	91924.99	233505.05	254016.94
8	91913.53	233317.48	253844.53
7	91902.07	233130.17	253672.38
6	91890.60	232943.11	253500.48
5	91879.12	232756.30	253328.83
4	91867.63	232569.75	253157.44
43	91856.14	232383.45	252986.30
42	91844.64	232197.40	252815.41
41	91833.13	232011.60	252644.78
40	91821.61	231826.06	252474.40
39	91810.08	231640.76	252304.26
38	91798.55	231455.71	252134.38
37	91787.01	231270.91	251964.75
36	91775.46	231086.36	251795.37
35	91763.90	230902.06	251626.24
34	91752.34	230718.01	251457.35
33	91740.77	230534.20	251288.71
32	91729.19	230350.64	251120.32
31	91717.60	230167.32	250952.18
30	91706.01	229984.25	250784.28

23	Sinus	Tangens	Secans
30	39874.91	43481.24	109044.11
31	39901.58	43515.83	109057.91
32	39928.25	43550.43	109071.72
33	39954.92	43585.04	109085.54
34	39981.58	43619.66	109099.38
35	40008.24	43654.29	109113.23
36	40034.90	43688.93	109127.09
37	40061.56	43723.58	109140.97
38	40088.21	43758.23	109154.86
39	40114.86	43792.89	109168.76
40	40141.50	43827.56	109182.67
41	40168.14	43862.24	109196.59
42	40194.78	43896.93	109210.53
43	40221.41	43931.63	109224.48
44	40248.04	43966.34	109238.45
45	40274.67	44001.06	109252.43
46	40301.29	44035.78	109266.42
47	40327.91	44070.51	109280.42
48	40354.53	44105.25	109294.44
49	40381.14	44140.00	109308.47
50	40407.75	44174.76	109322.51
51	40434.36	44209.53	109336.56
52	40460.96	44244.31	109350.63
53	40487.56	44279.10	109364.71
54	40514.16	44313.90	109378.80
55	40540.75	44348.71	109392.91
56	40567.34	44383.53	109407.03
57	40593.93	44418.35	109421.16
58	40620.51	44453.18	109435.30
59	40647.09	44488.02	109449.46
60	40673.66	44522.87	109463.63

	Sinus	Tangens	Secans
30	91706.01	229984.25	250784.28
29	91694.41	229801.41	250616.63
28	91682.80	229618.85	250449.23
27	91671.18	229436.51	250282.07
26	91659.55	229254.42	250115.15
25	91647.91	229072.57	249948.47
24	91636.27	228890.96	249782.04
23	91624.62	228709.59	249615.86
22	91612.96	228528.46	249449.91
21	91601.30	228347.58	249284.21
20	91589.63	228166.93	249118.74
19	91577.95	227986.53	248953.52
18	91566.26	227806.36	248788.54
17	91554.56	227626.43	248623.80
16	91542.86	227446.74	248459.29
15	91531.15	227267.29	248295.03
14	91519.43	227088.07	248131.00
13	91507.70	226909.09	247967.21
12	91495.96	226730.35	247803.66
11	91484.22	226551.84	247640.34
10	91472.47	226373.57	247477.26
9	91460.71	226195.53	247314.42
8	91448.95	226017.73	247151.81
7	91437.18	225840.16	246989.43
6	91425.40	225662.83	246827.29
5	91413.61	225485.72	246665.38
4	91401.81	225308.85	246503.71
3	91390.00	225132.21	246342.27
2	91378.19	224955.80	246181.06
1	91366.37	224779.62	246020.08
0	91354.54	224603.68	245859.33

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24	Sinus	Tangens	Secans
0	40673.66	44522.87	109463.63
1	40700.2[illegible]	44557.73	109477.81
2	40726.80	44592.60	109492.01
3	40753.37	44627.48	109506.22
4	40779.93	44662.37	109520.44
5	40806.49	44697.27	109534.67
6	40833.05	44732.17	109548.92
7	40859.60	44767.08	109563.18
8	40886.15	44802.00	109577.46
9	40912.69	44836.93	109591.74
10	40939.23	44871.87	109606.04
11	40965.77	44906.82	109620.36
12	40992.30	44941.78	109634.68
13	41018.83	44976.75	109649.02
14	41045.36	45011.73	109663.37
15	41071.89	45046.72	109677.74
16	41098.41	45081.72	109692.12
17	41124.93	45116.73	109706.51
18	41151.44	45151.74	109720.91
19	41177.95	45186.76	109735.33
20	41204.46	45221.79	109749.76
21	41230.96	45256.83	109764.20
22	41257.46	45291.88	109778.66
23	41283.95	45326.94	109793.13
24	41310.44	45362.01	109807.61
25	41336.93	45397.09	109822.11
26	41363.42	45432.18	109836.62
27	41389.90	45467.28	109851.14
28	41416.38	45502.39	109865.68
29	41442.85	45537.51	109880.23
30	41469.32	45572.64	109894.79

	Sinus	Tangens	Secans
0	91354.54	224603.68	245859.33
9	91342.71	224427.96	245698.82
8	91330.87	224252.47	245538.53
7	91319.02	224077.21	245378.48
6	91307.16	223902.18	245218.65
5	91295.29	223727.38	245059.05
54	91283.42	223552.80	244899.68
53	91271.54	223378.45	244740.54
52	91259.65	223204.33	244581.63
51	91247.75	223030.43	244422.94
50	91235.84	222856.76	244264.48
49	91223.93	222683.31	244106.24
48	91212.01	222510.09	243948.23
47	91200.08	222337.09	243790.45
46	91188.14	222164.32	243632.89
45	91176.20	221991.77	243475.55
44	91164.25	221819.44	243318.44
43	91152.29	221647.33	243161.55
42	91140.32	221475.45	243004.89
41	91128.35	221303.79	242848.44
40	91116.37	221132.34	242692.22
39	91104.38	220961.12	242536.22
38	91092.38	220790.12	242380.44
37	91080.38	220619.34	242224.88
36	91068.37	220448.78	242069.54
35	91056.35	220278.43	241914.42
34	91044.32	220108.31	241759.52
33	91032.28	219938.40	241604.84
32	91020.24	219768.71	241450.38
31	91008.19	219599.23	241296.13
30	90996.13	219429.97	241142.10

24	Sinus	Tangens	Secans
30	41469.32	45572.64	109894.79
31	41495.79	45607.77	109909.36
32	41522.26	45642.91	109923.95
33	41548.72	45678.06	109938.55
34	41575.18	45713.22	109953.17
35	41601.63	45748.39	109967.79
36	41628.08	45783.57	109982.43
37	41654.53	45818.76	109997.09
38	41680.97	45853.96	110011.76
39	41707.41	45889.17	110026.44
40	41733.85	45924.39	110041.13
41	41760.28	45959.62	110055.84
42	41786.71	45994.86	110070.56
43	41813.13	46030.11	110085.29
44	41839.55	46065.37	110100.04
45	41865.97	46100.64	110114.80
46	41892.39	46135.91	110129.57
47	41918.80	46171.19	110144.36
48	41945.21	46206.48	110159.16
49	41971.61	46241.78	110173.97
50	41998.01	46277.09	110188.79
51	42024.41	46312.42	110203.63
52	42050.80	46347.76	110218.49
53	42077.19	46383.11	110233.35
54	42103.58	46418.46	110248.23
55	42129.96	46453.82	110263.13
56	42156.34	46489.19	110278.03
57	42182.72	46524.57	110292.95
58	42209.09	46559.96	110307.89
59	42235.46	46595.36	110322.83
60	42261.83	46630.77	110337.79

	Sinus	Tangens	Secans
0	90996.13	219429.97	241142.10
9	90984.06	219260.93	240988.29
8	90971.98	219092.10	240834.69
7	90959.90	218923.49	240681.32
6	90947.81	218755.10	240528.15
5	90935.71	218586.91	240375.20
4	90923.61	218418.94	240222.47
3	90911.50	218251.19	240069.95
2	90899.38	218083.64	239917.64
21	90887.25	217916.31	239765.55
20	90875.11	217749.20	239613.67
19	90862.97	217582.29	239462.01
18	90850.82	217415.59	239310.55
17	90838.66	217249.11	239159.31
16	90826.49	217082.83	239008.28
15	90814.32	216916.77	238857.46
14	90802.14	216750.91	238706.85
13	90789.95	216585.27	238556.45
12	90777.75	216419.83	238406.25
11	90765.54	216254.60	238256.27
10	90753.33	216089.58	238106.50
9	90741.11	215924.76	237956.93
8	90728.88	215760.15	237807.58
7	90716.64	215595.75	237658.43
6	90704.40	215431.56	237509.49
5	90692.15	215267.57	237360.75
4	90679.89	215103.78	237212.22
3	90667.62	214940.20	237063.90
2	90655.35	214776.83	236915.73
1	90643.07	214613.66	236767.87
0	90630.78	214450.69	236620.16

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25	Sinus	Tangens	Secans
0	42261.83	46630.77	110337.79
1	42288.19	46666.19	110352.77
2	42314.55	46701.62	110367.75
3	42340.90	46737.06	110382.75
4	42367.25	46772.51	110397.77
5	42393.60	46807.97	110412.79
6	42419.94	46843.43	110427.83
7	42446.28	46878.90	110442.89
8	42472.62	46914.38	110457.95
9	42498.95	46949.88	110473.03
10	42525.28	46985.39	110488.13
11	42551.61	47020.90	110503.24
12	42577.93	47056.43	110518.36
13	42604.25	47091.96	110533.49
14	42630.56	47127.51	110548.64
15	42656.87	47163.06	110563.80
16	42683.18	47198.63	110578.98
17	42709.49	47234.20	110594.17
18	42735.79	47269.78	110609.37
19	42762.09	47305.38	110624.58
20	42788.38	47340.98	110639.81
21	42814.67	47376.59	110655.06
22	42840.95	47412.22	110670.31
23	42867.23	47447.85	110685.58
24	42893.51	47483.49	110700.87
25	42919.79	47519.14	110716.16
26	42946.06	47554.81	110731.47
27	42972.33	47590.48	110746.80
28	42998.59	47626.16	110762.14
29	43024.85	47661.85	110777.49
30	43051.11	47697.55	110792.85

	Sinus	Tangens	Secans
60	90630.78	214450.69	236620.16
59	90618.48	214287.93	236472.65
58	90606.17	214125.37	236325.35
57	90593.86	213963.01	236178.26
56	90581.54	213800.85	236031.36
55	90569.21	213638.89	235884.67
54	90556.88	213477.14	235738.18
53	90544.54	213315.59	235591.89
52	90532.19	213154.23	235445.81
51	90519.83	212993.08	235299.92
50	90507.46	212832.13	235154.24
49	90495.09	212671.37	235008.75
48	90482.71	212510.82	234863.47
47	90470.32	212350.46	234718.38
46	90457.92	212190.30	234573.49
45	90445.51	212030.34	234428.80
44	90433.10	211870.57	234284.31
43	90420.68	211711.01	234140.02
42	90408.25	211551.64	233995.93
41	90395.82	211392.46	233852.03
40	90383.38	211233.48	233708.33
39	90370.93	211074.70	233564.82
38	90358.47	210916.11	233421.52
37	90346.00	210757.71	233278.40
36	90333.53	210599.51	233135.48
35	90321.05	210441.50	232992.76
34	90308.56	210283.69	232850.23
33	90296.06	210126.07	232707.90
32	90283.56	209968.64	232565.75
31	90271.05	209811.40	232423.81
30	90258.53	209654.36	232282.05

25	Sinus	Tangens	Secans
30	43051.11	47697.55	110792.85
31	43077.36	47733.26	110808.23
32	43103.61	47768.99	110823.63
33	43129.86	47804.72	110839.03
34	43156.10	47840.46	110854.45
35	43182.34	47876.21	110869.89
36	43208.57	47911.97	110885.33
37	43234.80	47947.74	110900.79
38	43261.03	47983.52	110916.27
39	43287.26	48019.32	110931.76
40	43313.48	48055.12	110947.26
41	43339.70	48090.93	110962.77
42	43365.91	48126.75	110978.30
43	43392.12	48162.58	110993.85
44	43418.33	48198.42	111009.41
45	43444.53	48234.27	111024.98
46	43470.73	48270.14	111040.56
47	43496.92	48306.01	111056.16
48	43523.11	48341.89	111071.77
49	43549.30	48377.78	111087.40
50	43575.48	48413.68	111103.04
51	43601.66	48449.59	111118.69
52	43627.84	48485.52	111134.36
53	43654.01	48521.45	111150.04
54	43680.18	48557.39	111165.73
55	43706.34	48593.34	111181.44
56	43732.50	48629.31	111197.16
57	43758.66	48665.28	111212.90
58	43784.82	48701.26	111228.65
59	43810.97	48737.26	111244.42
60	43837.12	48773.26	111260.19

	Sinus	Tangens	Secans
30	90258.53	209654.36	232282.05
29	90246.00	209497.51	232140.49
28	90233.47	209340.84	231999.11
27	90220.93	209184.37	231857.94
26	90208.38	209028.09	231716.95
25	90195.82	208872.00	231576.15
24	90183.25	208716.10	231435.54
23	90170.68	208560.39	231295.13
22	90158.10	208404.86	231154.90
21	90145.51	208249.53	231014.86
20	90132.91	208094.38	230875.01
19	90120.31	207939.42	230735.35
18	90107.70	207784.65	230595.88
17	90095.08	207630.07	230456.60
16	90082.45	207475.67	230317.51
15	90069.82	207321.46	230178.60
14	90057.18	207167.43	230039.88
13	90044.53	207013.59	229901.34
12	90031.87	206859.93	229762.99
11	90019.21	206706.46	229624.83
10	90006.54	206553.18	229486.85
9	89993.86	206400.08	229349.06
8	89981.17	206247.16	229211.45
7	89968.48	206094.42	229074.03
6	89955.78	205941.87	228936.79
5	89943.07	205789.50	228799.74
4	89930.35	205637.32	228662.86
3	89917.62	205485.31	228526.18
2	89904.89	205333.49	228389.67
1	89892.15	205181.84	228253.34
0	89879.40	205030.38	228117.20
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26	Sinus	Tangens	Secans
0	43837.12	48773.26	111260.19
1	43863.26	48809.27	111275.98
2	43889.40	48845.30	111291.79
3	43915.53	48881.33	111307.61
4	43941.66	48917.37	111323.45
5	43967.79	48953.43	111339.30
6	43993.92	48989.49	111355.16
7	44020.04	49025.57	111371.03
8	44046.16	49061.66	111386.92
9	44072.27	49097.75	111402.82
10	44098.38	49133.86	111418.74
11	44124.48	49169.97	111434.67
12	44150.58	49206.10	111450.62
13	44176.68	49242.24	111466.58
14	44202.78	49278.38	111482.55
15	44228.87	49314.54	111498.54
16	44254.96	49350.71	111514.54
17	44281.04	49386.89	111530.56
18	44307.12	49423.08	111546.59
19	44333.20	49459.28	111562.63
20	44359.27	49495.49	111578.69
21	44385.34	49531.71	111594.76
22	44411.40	49567.94	111610.84
23	44437.46	49604.18	111626.94
24	44463.52	49640.43	111643.06
25	44489.57	49676.69	111659.19
26	44515.62	49712.97	111675.33
27	44541.67	49749.25	111691.49
28	44567.71	49785.54	111707.66
29	44593.75	49821.85	111723.84
30	44619.78	49858.16	111740.04

	Sinus	Tangens	Secans
60	89879.40	205030.38	228117.20
59	89866.65	204879.10	227981.24
58	89853.89	204728.00	227845.46
57	89841.12	204577.08	227709.86
56	89828.34	204426.34	227574.45
55	89815.55	204275.78	227439.21
54	89802.76	204125.40	227304.15
53	89789.96	203975.19	227169.27
52	89777.15	203825.17	227034.57
51	89764.33	203675.32	226900.05
50	89751.51	203525.65	226765.71
49	89738.68	203376.15	226631.55
48	89725.84	203226.83	226497.56
47	89712.99	203077.69	226363.75
46	89700.13	202928.73	226230.12
45	89687.27	202779.94	226096.67
44	89674.40	202631.33	225963.39
43	89661.52	202482.89	225830.29
42	89648.64	202334.62	225697.36
41	89635.75	202186.53	225564.61
40	89622.85	202038.62	225432.04
39	89609.94	201890.88	225299.64
38	89597.03	201743.31	225167.41
37	89584.11	201595.92	225035.36
36	89571.18	201448.69	224903.48
35	89558.24	201301.64	224771.78
34	89545.29	201154.77	224640.24
33	89532.34	201008.06	224508.89
32	89519.38	200861.53	224377.70
31	89506.41	200715.16	224246.69
30	89493.43	200568.97	224115.84

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26	*Sinus*	*Tangens*	*Secans*
30	44619.78	49858.16	111740.04
31	44645.81	49894.49	111756.25
32	44671.84	49930.82	111772.48
33	44697.86	49967.17	111788.72
34	44723.88	50003.52	111804.98
35	44749.90	50039.89	111821.25
36	44775.91	50076.27	111837.53
37	44801.92	50112.66	111853.83
38	44827.92	50149.06	111870.14
39	44853.92	50185.47	111886.47
40	44879.92	50221.89	111902.81
41	44905.91	50258.32	111919.16
42	44931.90	50294.76	111935.53
43	44957.89	50331.21	111951.91
44	44983.87	50367.67	111968.31
45	45009.85	50404.15	111984.72
46	45035.82	50440.63	112001.15
47	45061.79	50477.13	112017.59
48	45087.76	50513.63	112034.05
49	45113.72	50550.15	112050.52
50	45139.68	50586.68	112067.00
51	45165.63	50623.22	112083.50
52	45191.58	50659.77	112100.01
53	45217.53	50696.33	112116.53
54	45243.47	50732.90	112133.07
55	45269.41	50769.48	112149.63
56	45295.35	50806.07	112166.20
57	45321.28	50842.67	112182.78
58	45347.21	50879.28	112199.38
59	45373.13	50915.91	112216.00
60	45399.05	50952.54	112232.62

	Sinus	Tangens	Secans
30	89493.43	200568.97	224115.84
29	89480.45	200422.95	223985.17
28	89467.46	200277.10	223854.67
27	89454.46	200131.42	223724.35
26	89441.45	199985.90	223594.19
25	89428.44	199840.56	223464.20
24	89415.42	199695.39	223334.38
23	89402.39	199550.38	223204.74
22	89389.36	199405.54	223075.26
21	89376.32	199260.87	222945.95
20	89363.27	199116.37	222816.81
19	89350.21	198972.04	222687.83
18	89337.14	198827.87	222559.03
17	89324.06	198683.87	222430.39
16	89310.98	198540.03	222301.92
15	89297.89	198396.36	222173.62
14	89284.79	198252.86	222045.48
13	89271.69	198109.52	221917.51
12	89258.58	197966.35	221789.71
11	89245.46	197823.34	221662.07
10	89232.33	197680.50	221534.60
9	89219.20	197537.82	221407.30
8	89206.06	197395.31	221280.16
7	89192.91	197252.96	221153.18
6	89179.75	197110.77	221026.37
5	89166.59	196968.74	220899.72
4	89153.42	196826.88	220773.23
3	89140.24	196685.18	220646.91
2	89127.05	196543.64	220520.75
1	89113.85	196402.27	220394.76
0	89100.65	196261.05	220268.93
63			

27	*Sinus*	*Tangens*	*Secans*
0	45399.05	50952.54	112232.62
1	45424.97	50989.19	112249.26
2	45450.88	51025.85	112265.92
3	45476.79	51062.52	112282.59
4	45502.69	51099.19	112299.28
5	45528.59	51135.88	112315.98
6	45554.49	51172.59	112332.69
7	45580.38	51209.30	112349.42
8	45606.27	51246.02	112366.16
9	45632.16	51282.75	112382.92
10	45658.04	51319.50	112399.69
11	45683.92	51356.25	112416.48
12	45709.79	51393.02	112433.28
13	45735.66	51429.80	112450.10
14	45761.53	51466.58	112466.93
15	45787.39	51503.38	112483.77
16	45813.25	51540.19	112500.63
17	45839.10	51577.02	112517.50
18	45864.95	51613.85	112534.39
19	45890.80	51650.69	112551.29
20	45916.64	51687.55	112568.21
21	45942.48	51724.41	112585.14
22	45968.32	51761.29	112602.09
23	45994.15	51798.18	112619.05
24	46019.98	51835.08	112636.03
25	46045.80	51871.99	112653.02
26	46071.62	51908.91	112670.03
27	46097.44	51945.84	112687.05
28	46123.25	51982.78	112704.08
29	46149.06	52019.74	112721.13
30	46174.86	52056.70	112738.19

	Sinus	Tangens	Secans
60	89100.65	196261.05	220268.93
59	89087.44	196120.00	220143.26
58	89074.22	195979.10	220017.75
57	89061.00	195838.37	219892.40
56	89047.77	195697.80	219767.21
55	89034.53	195557.39	219642.19
54	89021.28	195417.13	219517.33
53	89008.02	195277.04	219392.62
52	88994.76	195137.11	219268.08
51	88981.49	194997.33	219143.70
50	88968.21	194857.71	219019.47
49	88954.93	194718.26	218895.41
48	88941.64	194578.96	218771.50
47	88928.34	194439.81	218647.75
46	88915.03	194300.83	218524.17
45	88901.71	194162.00	218400.74
44	88888.39	194023.33	218277.46
43	88875.06	193884.81	218154.35
42	88861.72	193746.45	218031.39
41	88848.37	193608.25	217908.59
40	88835.02	193470.20	217785.94
39	88821.66	193332.31	217663.46
38	88808.29	193194.57	217541.12
37	88794.92	193056.98	217418.95
36	88781.54	192919.56	217296.93
35	88768.15	192782.28	217175.06
34	88754.75	192645.16	217053.35
33	88741.34	192508.19	216931.80
32	88727.93	192371.38	216810.40
31	88714.51	192234.72	216689.15
30	88701.08	192098.21	216568.06

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27	Sinus	Tangens	Secans
30	46174.86	52056.70	112738.19
31	46200.66	52093.68	112755.27
32	46226.46	52130.67	112772.37
33	46252.25	52167.67	112789.48
34	46278.04	52204.68	112806.60
35	46303.82	52241.70	112823.74
36	46329.60	52278.74	112840.89
37	46355.38	52315.78	112858.06
38	46381.15	52352.84	112875.24
39	46406.92	52389.90	112892.44
40	46432.69	52426.98	112909.65
41	46458.45	52464.07	112926.88
42	46484.21	52501.17	112944.12
43	46509.96	52538.29	112961.37
44	46535.71	52575.41	112978.64
45	46561.45	52612.54	112995.93
46	46587.19	52649.69	113013.23
47	46612.93	52686.85	113030.55
48	46638.66	52724.02	113047.88
49	46664.39	52761.20	113065.22
50	46690.12	52798.39	113082.58
51	46715.84	52835.59	113099.96
52	46741.56	52872.81	113117.35
53	46767.27	52910.04	113134.75
54	46792.98	52947.27	113152.17
55	46818.69	52984.52	113169.61
56	46844.39	53021.78	113187.06
57	46870.09	53059.06	113204.52
58	46895.78	53096.34	113222.00
59	46921.47	53133.64	113239.50
60	46947.16	53170.94	113257.01

	Sinus	*Tangens*	*Secans*
30	88701.08	192098.21	216568.06
29	88687.64	191961.86	216447.12
28	88674.20	191825.65	216326.33
27	88660.75	191689.60	216205.70
26	88647.29	191553.70	216085.22
25	88633.83	191417.95	215964.89
24	88620.36	191282.36	215844.71
23	88606.88	191146.91	215724.69
22	88593.39	191011.62	215604.82
21	88579.89	190876.47	215485.10
20	88566.39	190741.47	215365.53
19	88552.88	190606.63	215246.11
18	88539.36	190471.93	215126.84
17	88525.83	190337.38	215007.72
16	88512.30	190202.99	214888.75
15	88498.76	190068.74	214769.93
14	88485.21	189934.64	214651.27
13	88471.66	189800.68	214532.75
12	88458.10	189666.88	214414.37
11	88444.53	189533.22	214296.15
10	88430.95	189399.71	214178.08
9	88417.36	189266.34	214060.15
8	88403.77	189133.13	213942.38
7	88390.17	189000.06	213824.75
6	88376.56	188867.13	213707.26
5	88362.94	188734.36	213589.93
4	88349.32	188601.72	213472.74
3	88335.69	188469.24	213355.70
2	88322.05	188336.90	213238.80
1	88308.41	188204.70	213122.05
0	88294.76	188072.65	213005.45

28	*Sinus*	*Tangens*	*Secans*
0	46947.16	53170.94	113257.01
1	46972.84	53208.26	113274.53
2	46998.52	53245.59	113292.07
3	47024.19	53282.93	113309.62
4	47049.86	53320.29	113327.19
5	47075.53	53357.65	113344.78
6	47101.19	53395.03	113362.38
7	47126.85	53432.42	113379.99
8	47152.50	53469.82	113397.62
9	47178.15	53507.23	113415.27
10	47203.80	53544.65	113432.93
11	47229.44	53582.08	113450.60
12	47255.08	53619.53	113468.29
13	47280.71	53656.99	113486.00
14	47306.34	53694.46	113503.72
15	47331.97	53731.94	113521.46
16	47357.59	53769.43	113539.21
17	47383.21	53806.94	113556.98
18	47408.82	53844.45	113574.76
19	47434.43	53881.98	113592.55
20	47460.04	53919.52	113610.36
21	47485.64	53957.07	113628.19
22	47511.24	53994.64	113646.03
23	47536.83	54032.21	113663.89
24	47562.42	54069.80	113681.76
25	47588.01	54107.40	113699.65
26	47613.59	54145.01	113717.55
27	47639.17	54182.63	113735.47
28	47664.74	54220.27	113753.40
29	47690.31	54257.91	113771.35
30	47715.88	54295.57	113789.32

	Sinus	Tangens	Secans
60	88294.76	188072.65	213005.45
59	88281.10	187940.74	212888.99
58	88267.43	187808.98	212772.67
57	88253.75	187677.36	212656.51
56	88240.07	187545.88	212540.48
55	88226.38	187414.55	212424.60
54	88212.68	187283.36	212308.87
53	88198.98	187152.31	212193.28
52	88185.27	187021.41	212077.83
51	88171.55	186890.64	211962.53
50	88157.82	186760.03	211847.37
49	88144.09	186629.55	211732.35
48	88130.35	186499.21	211617.48
47	88116.60	186369.02	211502.74
46	88102.84	186238.96	211388.15
45	88089.07	186109.05	211273.71
44	88075.30	185979.28	211159.40
43	88061.52	185849.65	211045.23
42	88047.73	185720.15	210931.21
41	88033.94	185590.80	210817.33
40	88020.14	185461.59	210703.59
39	88006.33	185332.52	210589.98
38	87992.51	185203.58	210476.52
37	87978.69	185074.79	210363.20
36	87964.86	184946.13	210250.02
35	87951.02	184817.61	210136.98
34	87937.17	184689.23	210024.08
33	87923.32	184560.99	209911.31
32	87909.46	184432.89	209798.69
31	87895.59	184304.92	209686.20
30	87881.71	184177.09	209573.85
61			

28	Sinus	Tangens	Secans
30	47715.88	54295.57	113789.32
31	47741.44	54333.24	113807.30
32	47767.00	54370.92	113825.29
33	47792.55	54408.62	113843.30
34	47818.10	54446.32	113861.33
35	47843.64	54484.04	113879.37
36	47869.18	54521.77	113897.43
37	47894.72	54559.51	113915.50
38	47920.26	54597.26	113933.59
39	47945.79	54635.03	113951.69
40	47971.31	54672.81	113969.81
41	47996.83	54710.60	113987.94
42	48022.35	54748.40	114006.09
43	48047.86	54786.21	114024.25
44	48073.37	54824.04	114042.43
45	48098.88	54861.88	114060.62
46	48124.38	54899.73	114078.83
47	48149.88	54937.59	114097.06
48	48175.37	54975.46	114115.30
49	48200.86	55013.35	114133.56
50	48226.34	55051.25	114151.83
51	48251.82	55089.16	114170.12
52	48277.30	55127.08	114188.42
53	48302.77	55165.02	114206.74
54	48328.24	55202.97	114225.07
55	48353.70	55240.93	114243.42
56	48379.16	55278.90	114261.79
57	48404.62	55316.88	114280.17
58	48430.07	55354.88	114298.57
59	48455.52	55392.88	114316.98
60	48480.96	55430.90	114335.41

	Sinus	Tangens	Secans
30	87881.71	184177.09	209573.85
29	87867.83	184049.39	209461.64
28	87853.94	183921.84	209349.57
27	87840.04	183794.42	209237.64
26	87826.13	183667.13	209125.84
25	87812.22	183539.99	209014.18
24	87798.30	183412.97	208902.65
23	87784.37	183286.10	208791.27
22	87770.43	183159.36	208680.02
21	87756.49	183032.75	208568.90
20	87742.54	182906.28	208457.92
19	87728.58	182779.94	208347.08
18	87714.61	182653.74	208236.37
17	87700.64	182527.67	208125.80
16	87686.66	182401.73	208015.36
15	87672.67	182275.93	207905.06
14	87658.68	182150.26	207794.89
13	87644.68	182024.73	207684.86
12	87630.67	181899.32	207574.96
11	87616.65	181774.05	207465.19
10	87602.62	181648.92	207355.56
9	87588.59	181523.91	207246.06
8	87574.55	181399.04	207136.70
7	87560.50	181274.30	207027.46
6	87546.45	181149.69	206918.36
5	87532.39	181025.21	206809.40
4	87518.32	180900.86	206700.56
3	87504.24	180776.64	206591.86
2	87490.16	180652.56	206483.28
1	87476.07	180528.60	206374.84
0	87461.97	180404.78	206266.53

29	Sinus	Tangens	Secans
0	48480.96	55430.90	114335.41
1	48506.40	55468.94	114353.85
2	48531.84	55506.98	114372.31
3	48557.27	55545.04	114390.78
4	48582.70	55583.11	114409.27
5	48608.12	55621.19	114427.78
6	48633.54	55659.29	114446.30
7	48658.95	55697.39	114464.84
8	48684.36	55735.51	114483.39
9	48709.77	55773.64	114501.96
10	48735.17	55811.79	114520.55
11	48760.57	55849.94	114539.15
12	48785.97	55888.11	114557.76
13	48811.36	55926.29	114576.39
14	48836.74	55964.48	114595.04
15	48862.12	56002.69	114613.70
16	48887.50	56040.91	114632.38
17	48912.87	56079.14	114651.08
18	48938.24	56117.38	114669.79
19	48963.61	56155.64	114688.52
20	48988.97	56193.91	114707.26
21	49014.33	56232.19	114726.02
22	49039.68	56270.48	114744.79
23	49065.03	56308.79	114763.58
24	49090.37	56347.10	114782.39
25	49115.71	56385.43	114801.21
26	49141.05	56423.78	114820.05
27	49166.38	56462.13	114838.90
28	49191.71	56500.50	114857.77
29	49217.04	56538.88	114876.65
30	49242.36	56577.28	114895.55

	Sinus	Tangens	Secans
0	87461.97	180404.78	206266.53
9	87447.86	180281.08	206158.36
8	87433.75	180157.51	206050.31
57	87419.63	180034.08	205942.39
56	87405.50	179910.77	205834.60
55	87391.36	179787.59	205726.95
54	87377.22	179664.54	205619.42
53	87363.07	179541.62	205512.03
52	87348.91	179418.83	205404.76
51	87334.75	179296.16	205297.62
50	87320.58	179173.62	205190.61
49	87306.40	179051.21	205083.73
48	87292.21	178928.93	204976.98
47	87278.01	178806.78	204870.36
46	87263.81	178684.75	204763.86
45	87249.60	178562.85	204657.50
44	87235.38	178441.07	204551.26
43	87221.16	178319.43	204445.15
42	87206.93	178197.90	204339.16
41	87192.69	178076.51	204233.30
40	87178.44	177955.24	204127.57
39	87164.19	177834.09	204021.97
38	87149.93	177713.07	203916.49
37	87135.66	177592.18	203811.14
36	87121.38	177471.41	203705.92
35	87107.10	177350.76	203600.82
34	87092.81	177230.24	203495.85
33	87078.51	177109.85	203391.00
32	87064.20	176989.58	203286.27
31	87049.89	176869.43	203181.68
30	87035.57	176749.40	203077.20

29	*Sinus*	*Tangens*	*Secans*
30	49242.36	56577.28	114895.55
31	49267.67	56615.68	114914.47
32	49292.98	56654.10	114933.40
33	49318.29	56692.53	114952.35
34	49343.59	56730.98	114971.32
35	49368.89	56769.44	114990.30
36	49394.19	56807.91	115009.30
37	49419.48	56846.39	115028.31
38	49444.77	56884.88	115047.34
39	49470.05	56923.39	115066.38
40	49495.33	56961.91	115085.44
41	49520.60	57000.45	115104.52
42	49545.87	57038.99	115123.61
43	49571.13	57077.55	115142.72
44	49596.39	57116.12	115161.85
45	49621.65	57154.71	115180.99
46	49646.90	57193.31	115200.15
47	49672.15	57231.92	115219.32
48	49697.40	57270.54	115238.51
49	49722.64	57309.18	115257.72
50	49747.87	57347.83	115276.94
51	49773.10	57386.49	115296.18
52	49798.33	57425.16	115315.43
53	49823.55	57463.85	115334.70
54	49848.77	57502.55	115353.99
55	49873.99	57541.26	115373.29
56	49899.20	57579.99	115392.61
57	49924.41	57618.73	115411.95
58	49949.61	57657.48	115431.30
59	49974.81	57696.25	115450.67
60	50000.00	57735.03	115470.05

	Sinus	Tangens	Secans
30	87035.57	176749.40	203077.20
29	87021.24	176629.50	202972.86
28	87006.90	176509.72	202868.63
27	86992.56	176390.07	202764.53
26	86978.21	176270.53	202660.56
25	86963.85	176151.12	202556.70
24	86949.49	176031.83	202452.97
23	86935.12	175912.67	202349.37
22	86920.74	175793.62	202245.89
21	86906.35	175674.70	202142.53
20	86891.96	175555.90	202039.29
19	86877.56	175437.22	201936.17
18	86863.15	175318.66	201833.18
17	86848.73	175200.23	201730.31
16	86834.31	175081.91	201627.56
15	86819.88	174963.71	201524.94
14	86805.44	174845.64	201422.43
13	86791.00	174727.68	201320.05
12	86776.55	174609.84	201217.79
11	86762.09	174492.13	201115.64
10	86747.62	174374.53	201013.62
9	86733.14	174257.05	200911.72
8	86718.66	174139.69	200809.94
7	86704.17	174022.45	200708.28
6	86689.67	173905.33	200606.74
5	86675.17	173788.33	200505.32
4	86660.66	173671.44	200404.02
3	86646.14	173554.68	200302.83
2	86631.61	173438.03	200201.77
1	86617.08	173321.49	200100.83
0	86602.54	173205.08	200000.00

60

30	Sinus	Tangens	Secans
0	50000.00	57735.03	115470.05
1	50025.19	57773.82	115489.45
2	50050.38	57812.62	115508.87
3	50075.56	57851.44	115528.30
4	50100.74	57890.27	115547.75
5	50125.91	57929.11	115567.22
6	50151.08	57967.97	115586.70
7	50176.24	58006.84	115606.20
8	50201.40	58045.73	115625.72
9	50226.55	58084.62	115645.25
10	50251.70	58123.53	115664.80
11	50276.85	58162.45	115684.36
12	50301.99	58201.39	115703.94
13	50327.13	58240.34	115723.54
14	50352.27	58279.30	115743.15
15	50377.40	58318.28	115762.78
16	50402.53	58357.27	115782.43
17	50427.65	58396.27	115802.09
18	50452.77	58435.28	115821.77
19	50477.88	58474.31	115841.47
20	50502.99	58513.35	115861.18
21	50528.09	58552.41	115880.91
22	50553.19	58591.48	115900.65
23	50578.28	58630.56	115920.41
24	50603.37	58669.65	115940.19
25	50628.46	58708.76	115959.99
26	50653.55	58747.88	115979.80
27	50678.63	58787.02	115999.63
28	50703.70	58826.17	116019.47
29	50728.77	58865.33	116039.33
30	50753.84	58904.50	116059.21

	Sinus	Tangens	Secans
60	86602.54	173205.08	200000.00
59	86587.99	173088.78	199899.29
58	86573.43	172972.60	199798.70
57	86558.87	172856.54	199698.23
56	86544.30	172740.60	199597.88
55	86529.72	172624.77	199497.64
54	86515.14	172509.05	199397.53
53	86500.55	172393.45	199297.52
52	86485.95	172277.97	199197.64
51	86471.34	172162.61	199097.87
50	86456.73	172047.36	198998.22
49	86442.11	171932.22	198898.69
48	86427.48	171817.20	198799.27
47	86412.84	171702.30	198699.97
46	86398.20	171587.51	198600.80
45	86383.55	171472.83	198501.72
44	86368.89	171358.27	198402.76
43	86354.23	171243.82	198303.93
42	86339.56	171129.49	198205.20
41	86324.88	171015.27	198106.59
40	86310.19	170901.16	198008.10
39	86295.49	170787.17	197909.72
38	86280.79	170673.29	197811.46
37	86266.08	170559.53	197713.31
36	86251.36	170445.87	197615.27
35	86236.64	170332.33	197517.35
34	86221.91	170218.90	197419.54
33	86207.17	170105.59	197321.85
32	86192.43	169992.38	197224.26
31	86177.68	169879.29	197126.80
30	86162.92	169766.31	197029.44

30	Sinus	Tangens	Secans
30	50753.84	58904.50	116059.21
31	50778.90	58943.69	116079.11
32	50803.96	58982.89	116099.02
33	50829.01	59022.11	116118.95
34	50854.06	59061.34	116138.89
35	50879.10	59100.58	116158.85
36	50904.14	59139.83	116178.83
37	50929.18	59179.10	116198.82
38	50954.21	59218.39	116218.83
39	50979.24	59257.68	116238.86
40	51004.26	59296.99	116258.91
41	51029.28	59336.32	116278.97
42	51054.29	59375.66	116299.05
43	51079.30	59415.01	116319.14
44	51104.31	59454.37	116339.25
45	51129.31	59493.75	116359.38
46	51154.31	59533.14	116379.53
47	51179.30	59572.54	116399.69
48	51204.29	59611.96	116419.87
49	51229.27	59651.40	116440.07
50	51254.25	59690.84	116460.28
51	51279.22	59730.30	116480.51
52	51304.19	59769.78	116500.76
53	51329.16	59809.27	116521.02
54	51354.12	59848.77	116541.30
55	51379.08	59888.28	116561.60
56	51404.04	59927.81	116581.91
57	51428.99	59967.35	116602.24
58	51453.93	60006.91	116622.59
59	51478.87	60046.48	116642.96
60	51503.81	60086.06	116663.34

	Sinus	*Tangens*	*Secans*
30	86162.92	169766.31	197029.44
29	86148.15	169653.44	196932.20
28	86133.37	169540.69	196835.07
27	86118.59	169428.04	196738.05
26	86103.80	169315.50	196641.14
25	86089.00	169203.08	196544.34
24	86074.20	169090.77	196447.67
23	86059.39	168978.56	196351.10
22	86044.57	168866.47	196254.64
21	86029.74	168754.49	196158.29
20	86014.91	168642.61	196062.06
9	86000.07	168530.85	195965.93
8	85985.22	168419.19	195869.92
7	85970.37	168307.65	195774.01
6	85955.51	168196.21	195678.22
5	85940.64	168084.89	195582.54
4	85925.76	167973.67	195486.97
3	85910.88	167862.56	195391.50
2	85895.99	167751.56	195296.15
1	85881.09	167640.67	195200.91
0	85866.18	167529.88	195105.77
9	85851.27	167419.21	195010.75
8	85836.35	167308.64	194915.83
7	85821.42	167198.18	194821.02
6	85806.49	167087.82	194726.32
5	85791.55	166977.58	194631.73
4	85776.60	166867.44	194537.25
3	85761.64	166757.41	194442.88
2	85746.68	166647.48	194348.61
1	85731.71	166537.66	194254.45
0	85716.73	166427.95	194160.40

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31	Sinus	Tangens	Secans
0	51503.81	60086.06	116663.34
1	51528.74	60125.66	116683.74
2	51553.67	60165.27	116704.16
3	51578.59	60204.90	116724.59
4	51603.51	60244.54	116745.c4
5	51628.42	60284.19	116765.51
6	51653.33	60323.86	116785.99
7	51678.24	60363.54	116806.49
8	51703.14	60403.23	116827.01
9	51728.04	60442.94	116847.55
10	51752.93	60482.66	116868.10
11	51777.82	60522.40	116888.67
12	51802.70	60562.15	116909.26
13	51827.58	60601.92	116929.86
14	51852.46	60641.70	116950.48
15	51877.33	60681.49	116971.12
16	51902.19	60721.30	116991.78
17	51927.05	60761.12	117012.45
18	51951.91	60800.95	117033.14
19	51976.76	60840.80	117053.85
20	52001.61	60880.67	117074.57
21	52026.46	60920.54	117095.31
22	52051.30	60960.43	117116.07
23	52076.13	61000.34	117136.85
24	52100.96	61040.26	117157.64
25	52125.79	61080.19	117178.45
26	52150.61	61120.14	117199.28
27	52175.43	61160.11	117220.13
28	52200.24	61200.08	117240.99
29	52225.05	61240.07	117261.87
30	52249.86	61280.08	117282.77

	Sinus	Tangens	Secans
60	85716.73	166427.95	194160.40
59	85701.74	166318.34	194066.46
58	85686.75	166208.84	193972.62
57	85671.75	166099.45	193878.89
56	85656.74	165990.16	193785.27
55	85641.73	165880.97	193691.76
54	85626.71	165771.89	193598.35
53	85611.68	165662.92	193505.05
52	85596.64	165554.05	193411.85
51	85581.60	165445.29	193318.76
50	85566.55	165336.63	193225.78
49	85551.49	165228.08	193132.90
48	85536.42	165119.63	193040.13
47	85521.35	165011.28	192947.46
46	85506.27	164903.04	192854.90
45	85491.18	164794.90	192762.44
44	85476.09	164686.86	192670.09
43	85460.99	164578.93	192577.84
42	85445.88	164471.11	192485.70
41	85430.76	164363.38	192393.66
40	85415.64	164255.76	192301.73
39	85400.51	164148.24	192209.90
38	85385.37	164040.82	192118.17
37	85370.23	163933.51	192026.55
36	85355.08	163826.30	191935.03
35	85339.92	163719.19	191843.62
34	85324.75	163612.18	191752.30
33	85309.58	163505.28	191661.09
32	85294.40	163398.47	191569.99
31	85279.21	163291.77	191478.99
30	85264.02	163185.17	191388.09

31	*Sinus*	*Tangens*	*Secans*
30	52249.80	61280.08	117282.77
31	52274.66	61320.10	117303.69
32	52299.45	61360.13	117324.62
33	52324.24	61400.18	117345.57
34	52349.03	61440.24	117366.54
35	52373.81	61480.32	117387.52
36	52398.59	61520.41	117408.52
37	52423.36	61560.52	117429.54
38	52448.13	61600.64	117450.58
39	52472.90	61640.77	117471.64
40	52497.66	61680.92	117492.71
41	52522.41	61721.08	117513.80
42	52547.16	61761.26	117534.91
43	52571.91	61801.45	117556.03
44	52596.65	61841.66	117577.17
45	52621.39	61881.88	117598.33
46	52646.12	61922.11	117619.51
47	52670.85	61962.36	117640.70
48	52695.58	62002.63	117661.91
49	52720.30	62042.91	117683.14
50	52745.02	62083.20	117704.39
51	52769.73	62123.51	117725.66
52	52794.44	62163.83	117746.94
53	52819.14	62204.17	117768.24
54	52843.84	62244.52	117789.56
55	52868.53	62284.88	117810.90
56	52893.22	62325.26	117832.25
57	52917.90	62365.66	117853.62
58	52942.58	62406.07	117875.01
59	52967.26	62446.50	117896.42
60	52991.93	62486.94	117917.84

	Sinus	Tangens	Secans
30	85264.02	163185.17	191388.09
29	85248.81	163078.67	191297.29
28	85233.60	162972.27	191206.59
27	85218.38	162865.97	191116.00
26	85203.16	162759.77	191025.51
25	85187.93	162653.68	190935.12
24	85172.69	162547.68	190844.83
23	85157.44	162441.78	190754.64
22	85142.19	162335.99	190664.56
21	85126.93	162230.29	190574.57
20	85111.66	162124.69	190484.69
19	85096.39	162019.20	190394.91
18	85081.11	161913.80	190305.22
17	85065.82	161808.50	190215.64
16	85050.52	161703.30	190126.16
15	85035.22	161598.20	190036.78
14	85019.91	161493.20	189947.50
13	85004.59	161388.29	189858.32
12	84989.27	161283.49	189769.24
11	84973.94	161178.78	189680.26
10	84958.60	161074.17	189591.38
9	84943.25	160969.66	189502.59
8	84927.90	160865.25	189413.91
7	84912.54	160760.94	189325.32
6	84897.17	160656.72	189236.84
5	84881.79	160552.60	189148.45
4	84866.41	160448.58	189060.16
3	84851.02	160344.65	188971.97
2	84835.62	160240.82	188883.88
1	84820.22	160137.09	188795.89
0	84804.81	160033.45	188707.99

32	*Sinus*	*Tangens*	*Secans*
0	52991.93	62486.94	117917.84
1	53016.59	62527.39	117939.28
2	53041.25	62567.86	117960.74
3	53065.91	62608.34	117982.22
4	53090.56	62648.84	118003.72
5	53115.21	62689.35	118025.23
6	53139.86	62729.88	118046.76
7	53164.50	62770.42	118068.31
8	53189.13	62810.98	118089.88
9	53213.76	62851.56	118111.47
10	53238.39	62892.15	118133.07
11	53263.01	62932.75	118154.69
12	53287.63	62973.36	118176.33
13	53312.24	63013.99	118197.99
14	53336.85	63054.[illegible]	118219.66
15	53361.45	63095.30	118241.35
16	53386.05	63135.98	118263.06
17	53410.64	63176.67	118284.79
18	53435.23	63217.38	118306.54
19	53459.82	63258.10	118328.30
20	53484.40	63298.83	118350.08
21	53508.98	63339.58	118371.88
22	53533.55	63380.35	118393.70
23	53558.12	63421.13	118415.54
24	53582.68	63461.93	118437.40
25	53607.24	63502.74	118459.27
26	53631.79	63543.57	118481.16
27	53656.34	63584.41	118503.07
28	53680.88	63625.27	118525.00
29	53705.42	63666.14	118546.94
30	53729.96	63707.03	118568.91

	Sinus	Tangens	Secans
60	84804.81	160033.45	188707.99
59	84789.39	159929.91	188620.19
58	84773.96	159826.47	188532.49
57	84758.53	159723.12	188444.89
56	84743.09	159619.87	188357.38
55	84727.64	159516.72	188269.97
54	84712.19	159413.66	188182.66
53	84696.73	159310.70	188095.45
52	84681.26	159207.83	188008.33
51	84665.78	159105.05	187921.31
50	84650.30	159002.38	187834.38
49	84634.81	158899.79	187747.55
48	84619.31	158797.30	187660.82
47	84603.81	158694.91	187574.18
46	84588.30	158592.61	187487.64
45	84572.78	158490.41	187401.20
44	84557.25	158388.30	187314.85
43	84541.72	158286.28	187228.59
42	84526.18	158184.36	187142.43
41	84510.63	158082.53	187056.37
40	84495.08	157980.79	186970.40
39	84479.52	157879.15	186884 53
38	84463.95	157777.60	186798.75
37	84448.37	157676.15	186713.06
36	84432.79	157574 79	186627.47
35	84417.20	157473.52	186541.97
34	84401.60	157372.34	186456.57
33	84386.00	157271.26	186371.26
32	84370.39	157170.26	186286.05
31	84354.77	157069.36	186200.93
30	84339.14	156968.56	186115.90

30	Sinus	Tangens	Secans
0	50000.00	57735.03	115470.05
1	50025.19	57773.82	115489.45
2	50050.38	57812.62	115508.87
3	50075.56	57851.44	115528.30
4	50100.74	57890.27	115547.75
5	50125.91	57929.11	115567.22
6	50151.08	57967.97	115586.70
7	50176.24	58006.84	115606.20
8	50201.40	58045.73	115625.72
9	50226.55	58084.62	115645.25
10	50251.70	58123.53	115664.80
11	50276.85	58162.45	115684.36
12	50301.99	58201.39	115703.94
13	50327.13	58240.34	115723.54
14	50352.27	58279.30	115743.15
15	50377.40	58318.28	115762.78
16	50402.53	58357.27	115782.43
17	50427.65	58396.27	115802.09
18	50452.77	58435.28	115821.77
19	50477.88	58474.31	115841.47
20	50502.99	58513.35	115861.18
21	50528.09	58552.41	115880.91
22	50553.19	58591.48	115900.65
23	50578.28	58630.56	115920.41
24	50603.37	58669.65	115940.19
25	50628.46	58708.76	115959.99
26	50653.55	58747.88	115979.80
27	50678.63	58787.02	115999.63
28	50703.70	58826.17	116019.47
29	50728.77	58865.33	116039.33
30	50753.84	58904.50	116059.21

	Sinus	Tangens	Secans
60	86602.54	173205.08	200000.00
59	86587.99	173088.78	199899.29
58	86573.43	172972.60	199798.70
57	86558.87	172856.54	199698.23
56	86544.30	172740.60	199597.88
55	86529.72	172624.77	199497.64
54	86515.14	172509.05	199397.53
53	86500.55	172393.45	199297.52
52	86485.95	172277.97	199197.64
51	86471.34	172162.61	199097.87
50	86456.73	172047.36	198998.22
49	86442.11	171932.22	198898.69
48	86427.48	171817.20	198799.27
47	86412.84	171702.30	198699.97
46	86398.20	171587.51	198600.80
45	86383.55	171472.83	198501.72
44	86368.89	171358.27	198402.76
43	86354.23	171243.82	198303.93
42	86339.56	171129.49	198205.20
41	86324.88	171015.27	198106.59
40	86310.19	170901.16	198008.10
39	86295.49	170787.17	197909.72
38	86280.79	170673.29	197811.46
37	86266.08	170559.53	197713.31
36	86251.36	170445.87	197615.27
35	86236.64	170332.33	197517.35
34	86221.91	170218.90	197419.54
33	86207.17	170105.59	197321.85
32	86192.43	169992.38	197224.26
31	86177.68	169879.29	197126.80
30	86162.92	169766.31	197029.44

59

30	Sinus	Tangens	Secans
30	50753.84	58904.50	116059.21
31	50778.90	58943.69	116079.11
32	50803.96	58982.89	116099.02
33	50829.01	59022.11	116118.95
34	50854.06	59061.34	116138.89
35	50879.10	59100.58	116158.85
36	50904.14	59139.83	116178.83
37	50929.18	59179.10	116198.82
38	50954.21	59218.39	116218.83
39	50979.24	59257.68	116238.86
40	51004.26	59296.99	116258.91
41	51029.28	59336.32	116278.97
42	51054.29	59375.66	116299.05
43	51079.30	59415.01	116319.14
44	51104.31	59454.37	116339.25
45	51129.31	59493.75	116359.38
46	51154.31	59533.14	116379.53
47	51179.30	59572.54	116399.69
48	51204.29	59611.96	116419.87
49	51229.27	59651.40	116440.07
50	51254.25	59690.84	116460.28
51	51279.22	59730.30	116480.51
52	51304.19	59769.78	116500.76
53	51329.16	59809.27	116521.02
54	51354.12	59848.77	116541.30
55	51379.08	59888.28	116561.60
56	51404.04	59927.81	116581.91
57	51428.99	59967.35	116602.24
58	51453.93	60006.91	116622.59
59	51478.87	60046.48	116642.96
60	51503.81	60086.06	116663.34

	Sinus	Tangens	Secans
30	86162.92	169766.31	197029.44
29	86148.15	169653.44	196932.20
28	86133.37	169540.69	196835.07
27	86118.59	169428.04	196738.05
26	86103.80	169315.50	196641.14
25	86089.00	169203.08	196544.34
24	86074.20	169090.77	196447.67
23	86059.39	168978.56	196351.10
22	86044.57	168866.47	196254.64
21	86029.74	168754.49	196158.29
20	86014.91	168642.61	196062.06
19	86000.07	168530.85	195965.93
18	85985.22	168419.19	195869.92
17	85970.37	168307.65	195774.01
16	85955.51	168196.21	195678.22
5	85940.64	168084.89	195582.54
4	85925.76	167973.67	195486.97
3	85910.88	167862.56	195391.50
2	85895.99	167751.56	195296.15
1	85881.09	167640.67	195200.91
0	85866.18	167529.88	195105.77
9	85851.27	167419.21	195010.75
8	85836.35	167308.64	194915.83
7	85821.42	167198.18	194821.02
6	85806.49	167087.82	194726.32
5	85791.55	166977.58	194631.73
4	85776.60	166867.44	194537.25
3	85761.64	166757.41	194442.88
2	85746.68	166647.48	194348.61
	85731.71	166537.66	194254.45
	85716.73	166427.95	194160.40
9			

31	Sinus	Tangens	Secans
0	51503.81	60086.06	116663.34
1	51528.74	60125.66	116683.74
2	51553.67	60165.27	116704.16
3	51578.59	60204.90	116724.59
4	51603.51	60244.54	116745.04
5	51628.42	60284.19	116765.51
6	51653.33	60323.86	116785.99
7	51678.24	60363.54	116806.49
8	51703.14	60403.23	116827.01
9	51728.04	60442.94	116847.55
10	51752.93	60482.66	116868.10
11	51777.82	60522.40	116888.67
12	51802.70	60562.15	116909.26
13	51827.58	60601.92	116929.86
14	51852.46	60641.70	116950.48
15	51877.33	60681.49	116971.12
16	51902.19	60721.30	116991.78
17	51927.05	60761.12	117012.45
18	51951.91	60800.95	117033.14
19	51976.76	60840.80	117053.85
20	52001.61	60880.67	117074.57
21	52026.46	60920.54	117095.31
22	52051.30	60960.43	117116.07
23	52076.13	61000.34	117136.85
24	52100.96	61040.26	117157.64
25	52125.79	61080.19	117178.45
26	52150.61	61120.14	117199.28
27	52175.43	61160.11	117220.13
28	52200.24	61200.08	117240.99
29	52225.05	61240.07	117261.87
30	52249.86	61280.08	117282.77

	Sinus	Tangens	Secans
60	85716.73	166427.95	194160.40
59	85701.74	166318.34	194066.46
58	85686.75	166208.84	193972.62
57	85671.75	166099.45	193878.89
56	85656.74	165990.16	193785.27
55	85641.73	165880.97	193691.76
54	85626.71	165771.89	193598.35
53	85611.68	165662.92	193505.05
52	85596.64	165554.05	193411.85
51	85581.60	165445.29	193318.76
50	85566.55	165336.63	193225.78
49	85551.49	165228.08	193132.90
48	85536.42	165119.63	193040.13
47	85521.35	165011.28	192947.46
46	85506.27	164903.04	192854.90
45	85491.18	164794.90	192762.44
44	85476.09	164686.86	192670.09
43	85460.99	164578.93	192577.84
42	85445.88	164471.11	192485.70
41	85430.76	164363.38	192393.66
40	85415.64	164255.76	192301.73
39	85400.51	164148.24	192209.90
38	85385.37	164040.82	192118.17
37	85370.23	163933.51	192026.55
36	85355.08	163826.30	191935.03
35	85339.92	163719.19	191843.62
34	85324.75	163612.18	191752.30
33	85309.58	163505.28	191661.09
32	85294.40	163398.47	191569.99
31	85279.21	163291.77	191478.99
30	85264.02	163185.17	191388.09

31	*Sinus*	*Tangens*	*Secans*
30	52249.86	61280.08	117282.77
31	52274.66	61320.10	117303.69
32	52299.45	61360.13	117324.62
33	52324.24	61400.18	117345.57
34	52349.03	61440.24	117366.54
35	52373.81	61480.32	117387.52
36	52398.59	61520.41	117408.52
37	52423.36	61560.52	117429.54
38	52448.13	61600.64	117450.58
39	52472.90	61640.77	117471.64
40	52497.66	61680.92	117492.71
41	52522.41	61721.08	117513.80
42	52547.16	61761.26	117534.91
43	52571.91	61801.45	117556.03
44	52596.65	61841.66	117577.17
45	52621.39	61881.88	117598.33
46	52646.12	61922.11	117619.51
47	52670.85	61962.36	117640.70
48	52695.58	62002.63	117661.91
49	52720.30	62042.91	117683.14
50	52745.02	62083.20	117704.39
51	52769.73	62123.51	117725.66
52	52794.44	62163.83	117746.94
53	52819.14	62204.17	117768.24
54	52843.84	62244.52	117789.56
55	52868.53	62284.88	117810.90
56	52893.22	62325.26	117832.25
57	52917.90	62365.66	117853.62
58	52942.58	62406.07	117875.01
59	52967.26	62446.50	117896.42
60	52991.93	62486.94	117917.84

	Sinus	Tangens	Secans
30	85264.02	163185.17	191388.09
29	85248.81	163078.67	191297.29
28	85233.60	162972.27	191206.59
27	85218.38	162865.97	191116.00
26	85203.16	162759.77	191025.51
25	85187.93	162653.68	190935.12
24	85172.69	162547.68	190844.83
23	85157.44	162441.78	190754.64
22	85142.19	162335.99	190664.56
21	85126.93	162230.29	190574.57
20	85111.66	162124.69	190484.69
19	85096.39	162019.20	190394.91
18	85081.11	161913.80	190305.22
17	85065.82	161808.50	190215.64
16	85050.52	161703.30	190126.16
15	85035.22	161598.20	190036.78
14	85019.91	161493.20	189947.50
13	85004.59	161388.29	189858.32
12	84989.27	161283.49	189769.24
11	84973.94	161178.78	189680.26
10	84958.60	161074.17	189591.38
9	84943.25	160969.66	189502.59
8	84927.90	160865.25	189413.91
7	84912.54	160760.94	189325.32
6	84897.17	160656.72	189236.84
5	84881.79	160552.60	189148.45
4	84866.41	160448.58	189060.16
3	84851.02	160344.65	188971.97
2	84835.62	160240.82	188883.88
1	84820.22	160137.09	188795.89
0	84804.81	160033.45	188707.99

32	Sinus	Tangens	Secans
0	52991.93	62486.94	117917.84
1	53016.59	62527.39	117939.28
2	53041.25	62567.86	117960.74
3	53065.91	62608.34	117982.22
4	53090.56	62648.84	118003.72
5	53115.21	62689.35	118025.23
6	53139.86	62729.88	118046.76
7	53164.50	62770.42	118068.31
8	53189.13	62810.98	118089.88
9	53213.76	62851.56	118111.47
10	53238.39	62892.15	118133.07
11	53263.01	62932.75	118154.69
12	53287.63	62973.36	118176.33
13	53312.24	63013.99	118197.99
14	53336.85	63054.[illegible]	118219.66
15	53361.45	63095.30	118241.35
16	53386.05	63135.98	118263.06
17	53410.64	63176.67	118284.79
18	53435.23	63217.38	118306.54
19	53459.82	63258.10	118328.30
20	53484.40	63298.83	118350.08
21	53508.98	63339.58	118371.88
22	53533.55	63380.35	118393.70
23	53558.12	63421.13	118415.54
24	53582.68	63461.93	118437.40
25	53607.24	63502.74	118459.27
26	53631.79	63543.57	118481.16
27	53656.34	63584.41	118503.07
28	53680.88	63625.27	118525.00
29	53705.42	63666.14	118546.94
30	53729.96	63707.03	118568.91

	Sinus	Tangens	Secans
60	84804.81	160033.45	188707.99
59	84789.39	159929.91	188620.19
58	84773.96	159826.47	188532.49
57	84758.53	159723.12	188444.89
56	84743.09	159619.87	188357.38
55	84727.64	159516.72	188269.97
54	84712.19	159413.66	188182.66
53	84696.73	159310.70	188095.45
52	84681.26	159207.83	188008.33
51	84665.78	159105.05	187921.31
50	84650.30	159002.38	187834.38
49	84634.81	158899.79	187747.55
48	84619.31	158797.30	187660.82
47	84603.81	158694.91	187574.18
46	84588.30	158592.61	187487.64
45	84572.78	158490.41	187401.20
44	84557.25	158388.30	187314.85
43	84541.72	158286.28	187228.59
42	84526.18	158184.36	187142.43
41	84510.63	158082.53	187056.37
40	84495.08	157980.79	186970.40
39	84479.52	157879.15	186884.53
38	84463.95	157777.60	186798.75
37	84448.37	157676.15	186713.06
36	84432.79	157574.79	186627.47
35	84417.20	157473.52	186541.97
34	84401.60	157372.34	186456.57
33	84386.00	157271.26	186371.26
32	84370.39	157170.26	186286.05
31	84354.77	157069.36	186200.93
30	84339.14	156968.56	186115.90

32	Sinus	Tangens	Secans
30	53729.96	63707.03	118568.91
31	53754.49	63747.93	118590.89
32	53779.02	63788.85	118612.89
33	53803.54	63829.78	118634.91
34	53828.06	63870.73	118656.95
35	53852.57	63911.69	118679.00
36	53877.08	63952.67	118701.07
37	53901.58	63993.66	118723.16
38	53926.08	64034.67	118745.27
39	53950.58	64075.69	118767.40
40	53975.07	64116.73	118789.55
41	53999.55	64157.79	118811.71
42	54024.03	64198.86	118833.89
43	54048.51	64239.95	118856.09
44	54072.98	64281.05	118878.31
45	54097.45	64322.16	118900.55
46	54121.91	64363.29	118922.81
47	54146.37	64404.44	118945.08
48	54170.82	64445.60	118967.37
49	54195.27	64486.78	118989.68
50	54219.71	64527.97	119012.01
51	54244.15	64569.18	119034.36
52	54268.59	64610.41	119056.73
53	54293.02	64651.65	119079.12
54	54317.44	64692.90	119101.52
55	54341.86	64734.17	119123.94
56	54366.28	64775.46	119146.38
57	54390.69	64816.76	119168.84
58	54415.10	64858.08	119191.32
59	54439.50	64899.41	119213.82
60	54463.90	64940.76	119236.33

	Sinus	*Tangens*	*Secans*
30	84339.14	156968.56	186115.90
29	84323.51	156867.84	186030.96
28	84307.87	156767.22	185946.12
27	84292.22	156666.69	185861.38
26	84276.57	156566.25	185776.72
25	84260.91	156465.90	185692.16
24	84245.24	156365.64	185607.69
23	84229.56	156265.48	185523.31
22	84213.88	156165.40	185439.03
21	84198.19	156065.42	185354.83
20	84182.49	155965.52	185270.73
19	84166.79	155865.72	185186.72
18	84151.08	155766.01	185102.81
17	84135.36	155666.39	185018.98
16	84119.63	155566.85	184935.25
15	84103.90	155467.41	184851.61
14	84088.16	155368.06	184768.05
13	84072.41	155268.80	184684.59
12	84056.66	155169.63	184601.23
11	84040.90	155070.54	184517.95
10	84025.13	154971.55	184434.76
9	84009.35	154872.64	184351.66
8	83993.57	154773.83	184268.66
7	83977.78	154675.10	184185.74
6	83961.98	154576.46	184102.92
5	83946.18	154477.92	184020.18
4	83930.37	154379.46	183937.53
3	83914.55	154281.08	183854.98
2	83898.73	154182.80	183772.51
1	83882.90	154084.60	183696.13
0	83867.06	153986.50	183607.84

33	Sinus	Tangens	Secans
0	54463.90	64940.76	119236.33
1	54488.30	64982.12	119258.86
2	54512.69	65023.50	119281.41
3	54537.07	65064.90	119303.98
4	54561.45	65106.31	119326.57
5	54585.83	65147.74	119349.18
6	54610.20	65189.18	119371.81
7	54634.56	65230.64	119394.46
8	54658.92	65272.11	119417.12
9	54683.28	65313.60	119439.80
10	54707.63	65355.11	119462.50
11	54731.98	65396.63	119485.22
12	54756.32	65438.17	119507.96
13	54780.66	65479.72	119530.72
14	54804.99	65521.29	119553.50
15	54829.32	65562.87	119576.30
16	54853.65	65604.47	119599.11
17	54877.97	65646.09	119621.94
18	54902.28	65687.72	119644.79
19	54926.59	65729.37	119667.66
20	54950.90	65771.03	119690.55
21	54975.20	65812.71	119713 46
22	54999.50	65854.41	119736.39
23	55023.79	65896.12	119759.34
24	55048.08	65937.85	119782.31
25	55072.36	65979.59	119805.29
26	55096.64	66021.35	119828.29
27	55120.91	66063.13	119851.31
28	55145.18	66104.92	119874.35
29	55169.44	66146.73	119897.41
30	55193.70	66188.56	119920.49

	Sinus	*Tangens*	*Secans*
60	83867.06	153986.50	183607.84
59	83851.21	153888.48	183525.64
58	83835.36	153790.55	183443.53
57	83819.50	153692.70	183361.51
56	83803.63	153594.94	183279.58
55	83787.75	153497.27	183197.74
54	83771.87	153399.69	183115.99
53	83755.98	153302.20	183034.32
52	83740.08	153204.79	182952.74
51	83724.18	153107.47	182871.25
50	83708.27	153010.23	182789.85
49	83692.35	152913.08	182708.54
48	83676.43	152816.02	182627.31
47	83660.50	152719.04	182546.17
46	83644.56	152622.15	182465.12
45	83628.61	152525.35	182384.16
44	83612.66	152428.63	182303.28
43	83596.70	152332.00	182222.49
42	83580.73	152235.45	182141.79
41	83564.76	152138.99	182061.18
40	83548.78	152042.61	181980.65
39	83532.79	151946.32	181900.21
38	83516.80	151850.12	181819.85
37	83500.80	151754.00	181739.58
36	83484.79	151657.96	181659.40
35	83468.77	151562.01	181579.30
34	83452.75	151466.14	181499.29
33	83436.72	151370.36	181419.37
32	83420.68	151274.66	181339.53
31	83404.63	151179.05	181259.77
30	83388.58	151083.52	181180.10

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33	Sinus	Tangens	Secans
30	55193.70	66188.56	119920.49
31	55217.95	66230.40	119943.59
32	55242.20	66272.26	119966.71
33	55266.45	66314.13	119989.85
34	55290.69	66356.02	120013.01
35	55314.92	66397.92	120036.19
36	55339.15	66439.84	120059.38
37	55363.38	66481.78	120082.59
38	55387.60	66523.73	120105.82
39	55411.82	66565.70	120129.07
40	55436.03	66607.69	120152.34
41	55460.24	66649.69	120175.63
42	55484.44	66691.71	120198.94
43	55508.64	66733.75	120222.27
44	55532.83	66775.80	120245.62
45	55557.02	66817.87	120268.99
46	55581.21	66859.95	120292.37
47	55605.39	66902.05	120315.77
48	55629.56	66944.17	120339.19
49	55653.73	66986.30	120362.64
50	55677.90	67028.45	120386.10
51	55702.06	67070.62	120409.58
52	55726.21	67112.80	120433.08
53	55750.36	67155.00	120456.60
54	55774.51	67197.21	120480.14
55	55798.65	67239.44	120503.70
56	55822.79	67281.69	120527.28
57	55846.92	67323.96	120550.88
58	55871.05	67366.24	120574.50
59	55895.17	67408.54	120598.14
60	55919.29	67450.85	120621.80

	Sinus	*Tangens*	*Secans*
30	83388.58	151083.52	181180.10
29	83372.52	150988.07	181100.52
28	83356.45	150892.71	181021.02
27	83340.38	150797.43	180941.61
26	83324.30	150702.24	180862.28
25	83308.21	150607.13	180783.04
24	83292.12	150512.10	180703.88
23	83276.02	150417.16	180624.81
22	83259.91	150322.30	180545.82
21	83243.80	150227.52	180466.91
20	83227.68	150132.82	180388.09
19	83211.55	150038.20	180309.35
18	83195.41	149943.67	180230.70
17	83179.27	149849.22	180152.13
16	83163.12	149754.86	180073.65
15	83146.96	149660.58	179995.25
14	83130.79	149566.38	179916.93
13	83114.62	149472.26	179838.69
12	83098.44	149378.22	179760.54
11	83082.26	149284.26	179682.47
10	83066.07	149190.38	179604.48
9	83049.87	149096.59	179526.58
8	83033.66	149002.88	179448.76
7	83017.45	148909.25	179371.02
6	83001.23	148815.70	179293.37
5	82985.00	148722.23	179215.80
4	82968.76	148628.84	179138.31
3	82952.52	148535.53	179060.90
2	82936.27	148442.30	178983.58
1	82920.02	148349.16	178906.33
0	82903.76	148256.10	178829.16

34	*Sinus*	*Tangens*	*Secans*
0	55919.29	67450.85	120621.8
1	55943.40	67493.18	120645.4
2	55967.51	67535.53	120669.1
3	55991.61	67577.90	120692.8
4	56015.71	67620.28	120716.6
5	56039.81	67662.68	120740.3
6	56063.90	67705.09	120764.1
7	56087.98	67747.52	120787.9
8	56112.06	67789.97	120811.7
9	56136.14	67832.44	120835.5
10	56160.21	67874.92	120859.44
11	56184.28	67917.42	120883.31
12	56208.34	67959.93	120907.20
13	56232.39	68002.46	120931.12
14	56256.44	68045.01	120955.05
15	56280.49	68087.58	120979.00
16	56304.53	68130.16	121002.97
17	56328.57	68172.76	121026.96
18	56352.60	68215.38	121050.97
19	56376.63	68258.01	121075.00
20	56400.65	68300.66	121099.05
21	56424.67	68343.33	121123.12
22	56448.69	68386.01	121147.21
23	56472.70	68428.71	121171.32
24	56496.70	68471.43	121195.45
25	56520.70	68514.17	121219.60
26	56544.69	68556.92	121243.77
27	56568.68	68599.69	121267.96
28	56592.67	68642.47	121292.17
29	56616.65	68685.27	121316.40
30	56640.62	68728.10	121340.64

	Sinus	Tangens	Secans
60	82903.76	148256.10	178829.16
59	82887.49	148163.11	178752.08
58	82871.21	148070.21	178675.08
57	82854.93	147977.38	178598.17
56	82838.64	147884.63	178521.33
55	82822.34	147791.97	178444.57
54	82806.03	147699.38	178367.90
53	82789.72	147606.88	178291.31
52	82773.40	147514.45	178214.79
51	82757.07	147422.10	178138.36
50	82740.74	147329.83	178062.01
49	82724.40	147237.64	177985.74
48	82708.05	1[illegible]145.53	177909.55
47	82691.70	147053.50	177833.43
46	82675.34	146961.55	177757.40
45	82658.97	146869.67	177681.45
44	82642.60	146777.87	177605.58
43	82626.22	146686.16	177529.79
42	82609.83	146594.52	177454.08
41	82593.43	146502.96	177378.45
40	82577.03	146411.47	177302.90
39	82560.62	146320.07	177227.43
38	82544.20	146228.74	177152.04
37	82527.78	146137.49	177076.73
36	82511.35	146046.32	177001.49
35	82494.91	145955.22	176926.33
34	82478.47	145864.20	176851.25
33	82462.02	145773.26	176776.25
32	82445.56	145682.40	176701.33
31	82429.09	145591.61	176626.49
30	82412.62	145500.90	176551.73

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34	Sinus	Tangens	Secans
30	56640.62	68728.10	121340.6
31	56664.59	68770.94	121364.9
32	56688.56	68813.79	121389.2
33	56712.52	68856.66	121413.5
34	56736.48	68899.55	121437.8
35	56760.43	68942.46	121462.1
36	56784.37	68985.38	121486.5
37	56808.31	69028.32	121510.9
38	56832.25	69071.28	121535.3
39	56856.18	69114.25	121559.7
40	56880.11	69157.24	121584.2
41	56904.03	69200.25	121608.70
42	56927.95	692[illegible]3.28	121633.19
43	56951.86	69286.33	121657.70
44	56975.77	69329.39	121682.23
45	56999.68	69372.47	121706.78
46	57023.58	69415.57	121731.35
47	57047.47	69458.68	121755.94
48	57071.36	69501.81	121780.55
49	57095.24	69544.96	121805.18
50	57119.12	69588.13	121829.83
51	57142.99	69631.31	121854.50
52	57166.86	69674.51	121879.19
53	57190.73	69717.73	121903.90
54	57214.59	69760.97	121928.64
55	57238.44	69804.22	121953.39
56	57262.29	69847.49	121978.16
57	57286.14	69890.78	122002.96
58	57309.98	69934.09	122027.77
59	57333.81	69977.41	122052.60
60	57357.64	70020.75	122077.46

	Sinus	Tangens	Secans
30	82412.62	145500.90	176551.73
29	82396.14	145410.27	176477.04
28	82379.65	145319.71	176402.43
27	82363.16	145229.23	176327.91
26	82346.66	145138.83	176253.45
25	82330.15	145048.50	176179.08
24	82313.64	144958.25	176104.78
23	82297.12	144868.08	176030.56
22	82280.59	144777.98	175956.42
21	82264.05	144687.96	175882.36
20	82247.51	144598.01	175808.37
19	82230.96	144508.14	175734.46
18	82214.40	144418.34	175660.63
17	82197.84	144328.62	175586.87
16	82181.27	144238.97	175513.19
15	82164.69	144149.40	175439.59
14	82148.11	144059.91	175366.07
13	82131.52	143970.49	175292.62
12	82114.92	143881.14	175219.24
11	82098.31	143791.87	175145.94
10	82081.70	143702.68	175072.73
9	82065.08	143613.56	174999.58
8	82048.46	143524.51	174926.51
7	82031.83	143435.54	174853.52
6	82015.19	143346.64	174780.60
5	81998.54	143257.81	174707.76
4	81981.89	143169.06	174634.99
3	81965.23	143080.39	174562.30
2	81948.56	142991.78	174489.69
1	81931.89	142903.26	174417.15
0	81915.21	142814.80	174344.68

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35	*Sinus*	*Tangens*	*Secans*
0	57357.64	70020.75	122077.46
1	57381.47	70064.11	122102.33
2	57405.29	70107.49	122127.23
3	57429.11	70150.89	122152.15
4	57452.92	70194.30	122177.08
5	57476.72	70237.73	122202.04
6	57500.52	70281.18	122227.02
7	57524.32	70324.65	122252.02
8	57548.11	70368.13	122277.03
9	57571.90	70411.63	122302.07
10	57595.68	70455.15	122327.13
11	57619.46	70498.69	122352.21
12	57643.23	70542.24	122377.32
13	57667.00	70585.81	122402.44
14	57690.76	70629.40	122427.58
15	57714.52	70673.01	122452.74
16	57738.27	70716.64	122477.93
17	57762.02	70760.29	122503.13
18	57785.76	70803.95	122528.36
19	57809.50	70847.63	122553.61
20	57833.23	70891.33	122578.87
21	57856.96	70935.05	122604.16
22	57880.68	70978.78	122629.47
23	57904.40	71022.53	122654.80
24	57928.12	71066.30	122680.15
25	57951.83	71110.09	122705.52
26	57975.53	71153.90	122730.91
27	57999.23	71197.73	122756.33
28	58022.92	71241.57	122781.76
29	58046.61	71285.43	122807.21
30	58070.30	71329.31	122832.69

	Sinus	Tangens	Secans
60	81915.21	142814.80	174344.68
59	81898.52	142726.42	174272.29
58	81881.82	142638.11	174199.97
57	81865.12	142549.87	174127.73
56	81848.41	142461.71	174055.56
55	81831.69	142373.62	173983.47
54	81814.97	142285.61	173911.45
53	81798.24	142197.66	173839.51
52	81781.50	142109.79	173767.64
51	81764.76	142022.00	173695.85
50	81748.01	141934.27	173624.13
49	81731.25	141846.62	173552.47
48	81714.49	141759.04	173480.90
47	81697.72	141671.53	173409.41
46	81680.94	141584.09	173337.98
45	81664.15	141496.73	173266.63
44	81647.36	141409.43	173195.35
43	81630.56	141322.21	173124.14
42	81613.76	141235.06	173053.01
41	81596.95	141147.99	172981.95
40	81580.13	141060.98	172910.96
39	81563.30	140974.05	172840.05
38	81546.47	140887.18	172769.21
37	81529.63	140800.39	172698.44
36	81512.78	140713.67	172627.74
35	81495.93	140627.02	172557.12
34	81479.06	140540.44	172486.57
33	81462.19	140453.93	172416.09
32	81445.32	140367.49	172345.68
31	81428.44	140281.13	172275.34
30	81411.55	140194.83	172205.08

35	Sinus	Tangens	Secans
30	58070.30	71329.31	122832.69
31	58093.98	71373.21	122858.19
32	58117.65	71417.13	122883.71
33	58141.32	71461.06	122909.25
34	58164.98	71505.01	122934.81
35	58188.64	71548.98	122960.39
36	58212.30	71592.97	122985.99
37	58235.95	71636.98	123011.61
38	58259.59	71681.01	123037.25
39	58283.23	71725.05	123062.92
40	58306.87	71769.11	123088.61
41	58330.50	71813.19	123114.32
42	58354.12	71857.29	123140.05
43	58377.74	71901.41	123165.80
44	58401.36	71945.55	123191.57
45	58424.97	71989.70	123217.36
46	58448.57	72033.87	123243.17
47	58472.17	72078.06	123269.00
48	58495.77	72122.27	123294.86
49	58519.36	72166.50	123320.74
50	58542.94	72210.75	123346.64
51	58566.52	72255.02	123372.56
52	58590.10	72299.31	123398.50
53	58613.67	72343.61	123424.46
54	58637.24	72387.93	123450.44
55	58660.80	72432.27	123476.45
56	58684.35	72476.63	123502.48
57	58707.90	72521.01	123528.52
58	58731.45	72565.41	123554.59
59	58754.99	72609.83	123580.68
60	58778.53	72654.26	123606.80

	Sinus	Tangens	Secans
30	81411.55	140194.83	172205.08
29	81394.65	140108.60	172134.89
28	81377.75	140022.45	172064.77
27	81360.84	139936.36	171994.72
26	81343.93	139850.34	171924.75
25	81327.01	139764.40	171854.84
24	81310.08	139678.52	171785.01
23	81293.14	139592.72	171715.25
22	81276.20	139506.98	171645.56
21	81259.25	139421.31	171575.94
20	81242.29	139335.71	171506.39
19	81225.32	139250.18	171436.91
18	81208.35	139164.73	171367.50
17	81191.37	139079.34	171298.17
16	81174.39	138994.01	171228.90
15	81157.40	138908.76	171159.70
14	81140.40	138823.58	171090.58
13	81123.39	138738.46	171021.52
12	81106.38	138653.42	170952.54
11	81089.36	138568.44	170883.62
10	81072.33	138483.53	170814.78
9	81055.30	138398.69	170746.00
8	81038.26	138313.92	170677.30
7	81021.21	138229.22	170608.66
6	81004.16	138144.58	170540.10
5	80987.10	138060.01	170471.60
4	80970.03	137975.51	170403.18
3	80952.96	137891.08	170334.82
2	80935.88	137806.72	170266.53
1	80918.79	137722.42	170198.31
0	80901.70	137638.19	170130.16

36	Sinus	Tangens	Secans
0	58778.53	72654.26	123606.80
1	58802.06	72698.71	123632.94
2	58825.58	72743.18	123659.09
3	58849.10	72787.67	123685.26
4	58872.62	72832.18	123711.48
5	58896.13	72876.71	123737.68
6	58919.64	72921.26	123763.93
7	58943.14	72965.82	123790.19
8	58966.63	73010.40	123816.47
9	58990.12	73055.01	123842.78
10	59013.61	73099.63	123869.11
11	59037.09	73144.27	123895.46
12	59060.57	73188.94	123921.83
13	59084.04	73233.62	123948.22
14	59107.50	73278.31	123974.64
15	59130.96	73323.03	124001.08
16	59154.42	73367.77	124027.54
17	59177.87	73412.53	124054.02
18	59201.32	73457.30	124080.52
19	59224.76	73502.10	124107.04
20	59248.19	73546.91	124133.59
21	59271.62	73591.74	124160.16
22	59295.05	73636.60	124186.75
23	59318.47	73681.47	124213.36
24	59341.89	73726.36	124239.99
25	59365.30	73771.27	124266.65
26	59388.71	73816.20	124293.33
27	59412.11	73861.15	124320.03
28	59435.50	73906.11	124346.75
29	59458.89	73951.10	124373.49
30	59482.28	73996.11	124400.26

	Sinus	Tangens	Secans
60	80901.70	137638.19	170130.16
59	80884.60	137554.03	170062.08
58	80867.49	137469.94	169994.07
57	80850.37	137385.91	169926.12
56	80833.25	137301.95	169858.25
55	80816.12	137218.05	169790.44
54	80798.99	137134.23	169722.71
53	80781.85	137050.47	169655.04
52	80764.70	136966.78	169587.43
51	80747.54	136883.15	169519.90
50	80730.38	136799.59	169452.44
49	80713.21	136716.10	169385.04
48	80696.03	136632.67	169317.71
47	80678.85	136549.31	169250.45
46	80661.66	136466.02	169183.26
45	80644.46	136382.79	169116.13
44	80627.26	136299.63	169049.07
43	80610.05	136216.53	168982.08
42	80592.83	136133.50	168915.16
41	80575.60	136050.54	168848.30
40	80558.37	135967.64	168781.51
39	80541.13	135884.81	168714.79
38	80523.89	135802.04	168648.14
37	80506.64	135719.34	168581.55
36	80489.38	135636.70	168515.03
35	80472.11	135554.13	168448.57
34	80454.84	135471.62	168382.18
33	80437.56	135389.18	168315.86
32	80420.28	135306.80	168249.61
31	80402.99	135224.49	168183.42
30	80385.69	135142.24	168117.30

36	*Sinus*	*Tangens*	*Secans*
30	59482.28	73996.11	124400.26
31	59505.66	74041.14	124427.05
32	59529.03	74086.18	124453.86
33	59552.40	74131.24	124480.69
34	59575.77	74176.33	124507.54
35	59599.13	74221.43	124534.42
36	59622.49	74266.55	124561.31
37	59645.84	74311.70	124588.23
38	59669.18	74356.86	124615.18
39	59692.52	74402.04	124642.14
40	59715.86	74447.24	124669.13
41	59739.19	74492.46	124696.14
42	59762.51	74537.70	124723.17
43	59785.83	74582.96	124750.22
44	59809.15	74628.24	124777.30
45	59832.46	74673.54	124804.40
46	59855.76	74718.86	124831.52
47	59879.06	74764.20	124858.66
48	59902.36	74809.56	124885.83
49	59925.65	74854.94	124913.02
50	59948.93	74900.33	124940.23
51	59972.21	74945.75	124967.46
52	59995.49	74991.19	124994.71
53	60018.76	75036.65	125021.99
54	60042.02	75082.12	125049.29
55	60065.28	75127.62	125076.61
56	60088.53	75173.14	125103.96
57	60111.78	75218.67	125131.33
58	60135.03	75264.23	125158.72
59	60158.27	75309.81	125186.13
60	60181.50	75355.40	125213.57

	Sinus	*Tangens*	*Secans*
30	80385.69	135142.24	168117.30
29	80368.38	135060.06	168051.24
28	80351.07	134977.94	167985.25
27	80333.75	134895.89	167919.33
26	80316.42	134813.90	167853.47
25	80299.09	134731.97	167787.68
24	80281.75	134650.11	167721.95
23	80264.40	134568.32	167656.29
22	80247.05	134486.58	167590.70
21	80229.69	134404.92	167525.17
20	80212.32	134323.31	167459.70
19	80194.94	134241.77	167394.30
18	80177.56	134160.29	167328.97
17	80160.17	134078.88	167263.70
16	80142.78	133997.53	167198.50
15	80125.38	133916.24	167133.36
14	80107.97	133835.02	167068.28
13	80090.56	133753.86	167003.28
12	80073.14	133672.76	166938.33
11	80055.71	133591.72	166873.45
10	80038.27	133510.75	166808.64
9	80020.83	133429.84	166743.89
8	80003.38	133349.00	166679.20
7	79985.93	133268.22	166614.58
6	79968.47	133187.49	166550.02
5	79951.00	133106.84	166485.52
4	79933.52	133026.24	166421.09
3	79916.04	132945.71	166356.73
2	79898.55	132865.24	166292.43
1	79881.05	132784.83	166228.19
0	79863.55	132704.48	166164.01

53

37	Sinus	Tangens	Secans
0	60181.50	75355.40	125213.57
1	60204.73	75401.02	125241.02
2	60227.95	75446.66	125268.50
3	60251.17	75492.32	125296.01
4	60274.39	75537.99	125323.53
5	60297.60	75583.69	125351.08
6	60320.80	75629.41	125378.65
7	60344.00	75675.14	125406.25
8	60367.19	75720.90	125433.87
9	60390.38	75766.68	125461.51
10	60413.56	75812.48	125489.17
11	60436.74	75858.29	125516.85
12	60459.91	75904.13	125544.56
13	60483.08	75949.99	125572.29
14	60506.24	75995.87	125600.05
15	60529.40	76041.77	125627.82
16	60552.55	76087.69	125655.62
17	60575.70	76133.63	125683.45
18	60598.84	76179.59	125711.29
19	60621.98	76225.57	125739.16
20	60645.11	76271.57	125767.05
21	60668.23	76317.59	125794.97
22	60691.35	76363.63	125822.91
23	60714.47	76409.69	125850.87
24	60737.58	76455.77	125878.85
25	60760.69	76501.88	125906.86
26	60783.79	76548.00	125934.89
27	60806.89	76594.14	125962.94
28	60829.98	76640.31	125991.02
29	60853.06	76686.49	126019.12
30	60876.14	76732.70	126047.24

	Sinus	Tangens	Secans
60	79863.55	132704.48	166164.01
59	79846.04	132624.20	166099.90
58	79828.52	132543.97	166035.85
57	79811.00	132463.81	165971.87
56	79793.47	132383.71	165907.95
55	79775.93	132303.68	165844.09
54	79758.39	132223.70	165780.30
53	79740.84	132143.79	165716.57
52	79723.28	132063.93	165652.90
51	79705.72	131984.14	165589.29
50	79688.15	131904.41	165525.75
49	79670.57	131824.74	165462.27
48	79652.99	131745.13	165398.85
47	79635.40	131665.59	165335.50
46	79617.80	131586.10	165272.21
45	79600.20	131506.68	165208.98
44	79582.59	131427.31	165145.81
43	79564.97	131348.01	165082.70
42	79547.35	131268.76	165019.66
41	79529.72	131189.58	164956.68
40	79512.08	131110.46	164893.76
39	79494.43	131031.40	164830.90
38	79476.78	130952.39	164768.11
37	79459.12	130873.45	164705.37
36	79441.46	130794.57	164642.70
35	79423.79	130715.75	164580.09
34	79406.11	130636.99	164517.54
33	79388.43	130558.28	164455.06
32	79370.74	130479.64	164392.63
31	79353.04	130401.06	164330.27
30	79335.33	130322.54	164267.96

37	Sinus	Tangens	Secans
30	60876.14	76732.70	126047.24
31	60899.22	76778.93	126075.39
32	60922.29	76825.17	126103.56
33	60945.35	76871.44	126131.75
34	60968.41	76917.73	126159.97
35	60991.47	76964.04	126188.20
36	61014.52	77010.37	126216.46
37	61037.56	77056.72	126244.75
38	61060.60	77103.09	126273.06
39	61083.63	77149.48	126301.40
40	61106.66	77195.89	126329.75
41	61129.68	77242.33	126358.13
42	61152.70	77288.79	126386.53
43	61175.72	77335.26	126414.96
44	61198.73	77381.75	126443.41
45	61221.73	77428.27	126471.88
46	61244.73	77474.81	126500.38
47	61267.72	77521.37	126528.90
48	61290.71	77567.95	126557.45
49	61313.69	77614.55	126586.01
50	61336.66	77661.17	126614.60
51	61359.63	77707.82	126643.22
52	61382.60	77754.48	126671.86
53	61405.56	77801.17	126700.52
54	61428.52	77847.88	126729.21
55	61451.47	77894.60	126757.92
56	61474.42	77941.35	126786.65
57	61497.36	77988.12	126815.41
58	61520.29	78034.92	126844.19
59	61543.22	78081.73	126872.99
60	61566.15	78128.56	126901.82

	Sinus	Tangens	Secans
30	79335.33	130322.54	164267.96
29	79317.62	130244.07	164205.72
28	79299.90	130165.67	164143.54
27	79282.18	130087.32	164081.42
26	79264.45	130009.04	164019.36
25	79246.71	129930.81	163957.36
24	79228.96	129852.65	163895.42
23	79211.21	129774.54	163833.55
22	79193.45	129696.49	163771.73
21	79175.69	129618.50	163709.97
20	79157.92	129540.57	163648.28
19	79140.14	129462.69	163586.64
18	79122.35	129384.88	163525.07
17	79104.56	129307.12	163463.55
16	79086.76	129229.43	163402.10
15	79068.96	129151.79	163340.70
14	79051.15	129074.21	163279.37
13	79033.33	128996.69	163218.09
12	79015.50	128919.22	163156.88
11	78997.67	128841.82	163095.72
10	78979.83	128764.47	163034.62
9	78961.98	128687.18	162973.59
8	78944.13	128609.95	162912.61
7	78926.27	128532.77	162851.69
6	78908.41	128455.66	162790.83
5	78890.54	128378.60	162730.03
4	78872.66	128301.60	162669.29
3	78854.77	128224.66	162608.61
2	78836.88	128147.76	162547.99
1	78818.98	128070.93	162487.43
0	78801.07	127994.16	162426.92
52			

38	Sinus	Tangens	Secans
0	61566.15	78128.56	126901.82
1	61589.07	78175.42	126930.67
2	61611.98	78222.29	126959.55
3	61634.89	78269.19	126988.45
4	61657.79	78316.11	127017.37
5	61680.69	78363.05	127046.32
6	61703.59	78410.02	127075.29
7	61726.48	78457.00	127104.29
8	61749.36	78504.00	127133.31
9	61772.24	78551.03	127162.35
10	61795.11	78598.08	127191.42
11	61817.98	78645.15	127220.51
12	61840.84	78692.24	127249.63
13	61863.70	78739.35	127278.77
14	61886.55	78786.49	127307.94
15	61909.40	78833.64	127337.12
16	61932.24	78880.82	127366.34
17	61955.07	78928.02	127395.57
18	61977.90	78975.24	127424.84
19	62000.73	79022.48	127454.12
20	62023.55	79069.75	127483.43
21	62046.36	79117.03	127512.76
22	62069.17	79164.34	127542.12
23	62091.98	79211.67	127571.50
24	62114.78	79259.02	127600.91
25	62137.57	79306.40	127630.34
26	62160.36	79353.79	127659.80
27	62183.14	79401.21	127689.28
28	62205.92	79448.65	127718.78
29	62228.69	79496.11	127748.31
30	62251.46	79543.59	127777.87

	Sinus	Tangens	Secans
60	78801.07	127994.16	162426.92
59	78783.16	127917.45	162366.48
58	78765.24	127840.79	162306.09
57	78747.32	127764.19	162245.76
56	78729.39	127687.64	162185.49
55	78711.45	127611.16	162125.28
54	78693.50	127534.73	162065.13
53	78675.55	127458.36	162005.04
52	78657.59	127382.04	161945.00
51	78639.62	127305.78	161885.02
50	78621.65	127229.57	161825.10
49	78603.67	127153.42	161765.24
48	78585.69	127077.33	161705.44
47	78567.70	127001.30	161645.69
46	78549.70	126925.32	161586.00
45	78531.69	126849.39	161526.37
44	78513.68	126773.53	161466.80
43	78495.66	126697.72	161407.28
42	78477.64	126621.96	161347.83
41	78459.61	126546.26	161288.43
40	78441.57	126470.62	161229.08
39	78423.52	126395.03	161169.80
38	78405.47	126319.50	161110.57
37	78387.41	126244.02	161051.40
36	78369.35	126168.60	160992.28
35	78351.28	126093.23	160933.23
34	78333.20	126017.92	160874.23
33	78315.11	125942.67	160815.28
32	78297.02	125867.47	160756.40
31	78278.92	125792.32	160697.57
30	78260.82	125717.23	160638.79

51

38	Sinus	Tangens	Secans
30	62251.46	79543.59	127777.87
31	62274.22	79591.10	127807.45
32	62296.98	79638.62	127837.05
33	62319.73	79686.17	127866.67
34	62342.48	79733.74	127896.32
35	62365.22	79781.34	127926.00
36	62387.96	79828.95	127955.70
37	62410.69	79876.59	127985.43
38	62433.42	79924.25	128015.18
39	62456.14	79971.93	128044.95
40	62478.85	80019.63	128074.75
41	62501.56	80067.36	128104.57
42	62524.26	80115.11	128134.42
43	62546.96	80162.88	128164.30
44	62569.66	80210.67	128194.20
45	62592.35	80258.48	128224.12
46	62615.03	80306.32	128254.07
47	62637.71	80354.18	128284.04
48	62660.38	80402.06	128314.04
49	62683.05	80449.97	128344.06
50	62705.71	80497.90	128374.11
51	62728.37	80545.85	128404.18
52	62751.02	80593.82	128434.28
53	62773.66	80641.81	128464.40
54	62796.30	80689.83	128494.55
55	62818.94	80737.87	128524.72
56	62841.57	80785.93	128554.92
57	62864.20	80834.01	128585.14
58	62886.82	80882.12	128615.39
59	62909.43	80930.25	128645.66
60	62932.04	80978.40	128675.96

	Sinus	Tangens	Secans
30	78260.82	125717.23	160638.79
29	78242.71	125642.19	160580.08
28	78224.59	125567.21	160521.42
27	78206.46	125492.29	160462.81
26	78188.33	125417.42	160404.26
25	78170.19	125342.60	160345.77
24	78152.05	125267.84	160287.34
23	78133.90	125193.13	160228.96
22	78115.74	125118.48	160170.64
21	78097.57	125043.88	160112.37
20	78079.40	124969.33	160054.16
19	78061.22	124894.84	159996.00
18	78043.04	124820.40	159937.90
17	78024.85	124746.02	159879.86
16	78006.65	124671.69	159821.87
15	77988.45	124597.42	159763.94
14	77970.24	124523.20	159706.06
13	77952.02	124449.03	159648.24
12	77933.80	124374.92	159590.47
11	77915.57	124300.86	159532.76
10	77897.33	124226.85	159475.11
9	77879.08	124152.90	159417.51
8	77860.83	124079.00	159359.96
7	77842.57	124005.15	159302.47
6	77824.31	123931.36	159245.04
5	77806.04	123857.62	159187.66
4	77787.77	123783.93	159130.33
3	77769.49	123710.30	159073.06
2	77751.20	123636.72	159015.84
1	77732.90	123563.19	158958.68
0	77714.60	123489.72	158901.57
51			

39	Sinus	Tangens	Secans
0	62932.04	80978.40	128675.9
1	62954.64	81026.58	128706.2
2	62977.24	81074.78	128736.6
3	62999.83	81123.00	128767.0
4	63022.42	81171.24	128797.4
5	63045.00	81219.51	128827.8
6	63067.58	81267.80	128858.2
7	63090.15	81316.11	128888.7
8	63112.72	81364.44	128919.2
9	63135.28	81412.80	128949.7
10	63157.84	81461.18	128980.3
11	63180.39	81509.58	129010.9
12	63202.93	81558.01	129041.5
13	63225.47	81606.46	129072.1
14	63248.00	81654.93	129102.7
15	63270.53	81703.43	129133.4
16	63293.05	81751.95	129164.1
17	63315.57	81800.49	129194.8
18	63338.08	81849.05	129225.6
19	63360.59	81897.64	129256.4
20	63383.09	81946.25	129287.2
21	63405.59	81994.88	129318.0
22	63428.08	82043.54	129348.9
23	63450.57	82092.22	129379.8
24	63473.05	82140.93	129410.7
25	63495.53	82189.65	129441.6
26	63518.00	82238.40	129472.6
27	63540.46	82287.18	129503.5
28	63562.92	82335.97	129534.6
29	63585.37	82384.79	129565.6
30	63607.82	82433.64	129596.7

	Sinus	Tangens	Secans
60	77714.60	123489.72	158901.57
59	77696.29	123416.29	158844.52
58	77677.97	123342.92	158787.52
57	77659.65	123269.61	158730.58
56	77641.32	123196.34	158673.69
55	77622.98	123123.13	158616.85
54	77604.64	123049.97	158560.07
53	77586.29	122976.87	158503.34
52	77567.94	122903.81	158446.67
51	77549.58	122830.81	158390.05
50	77531.24	122757.86	158333.48
49	77512.83	122684.96	158276.97
48	77494.45	122612.11	158220.51
47	77476.06	122539.32	158164.11
46	77457.67	122466.58	158107.76
45	77439.27	122393.89	158051.46
44	77420.86	122321.25	157995.21
43	77402.44	122248.66	157939.02
42	77384.02	122176.13	157882.89
41	77365.59	122103.64	157826.80
40	77347.16	122031.21	157770.77
39	77328.72	121958.83	157714.79
38	77310.27	121886.50	157658.87
37	77291.82	121814.22	157603.00
36	77273.36	121741.99	157547.18
35	77254.89	121669.82	157491.41
34	77236.42	121597.69	157435.70
33	77217.94	121525.62	157380.04
32	77199.45	121453.59	157324.43
31	77180.96	121381.62	157268.87
30	77162.46	121309.70	157213.37

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39	*Sinus*	*Tangens*	*Secans*
30	63607.82	82433.64	129596.70
31	63630.26	82482.51	129627.79
32	63652.70	82531.40	129658.90
33	63675.13	82580.31	129690.04
34	63697.56	82629.25	129721.21
35	63719.98	82678.21	129752.40
36	63742.40	82727.19	129783.62
37	63764.81	82776.20	129814.87
38	63787.21	82825.23	129846.14
39	63809.61	82874.29	129877.44
40	63832.01	82923.37	129908.76
41	63854.40	82972.47	129940.11
42	63876.78	83021.60	129971.48
43	63899.16	83070.75	130002.88
44	63921.53	83119.92	130034.31
45	63943.90	83169.12	130065.76
46	63966.26	83218.34	130097.24
47	63988.62	83267.59	130128.75
48	64010.97	83316.86	130160.28
49	64033.32	83366.15	130191.84
50	64055.66	83415.47	130223.43
51	64077.99	83464.81	130255.04
52	64100.32	83514.18	130286.68
53	64122.64	83563.57	130318.34
54	64144.96	83612.98	130350.03
55	64167.27	83662.42	130381.79
56	64189.58	83711.88	130413.49
57	64211.88	83761.36	130445.26
58	64234.18	83810.87	130477.06
59	64256.47	83860.40	130508.88
60	64278.76	83909.96	130540.73

	Sinus	Tangens	Secans
30	77162.46	121309.70	157213.37
29	77143.95	121237.83	157157.92
28	77125.44	121166.01	157102.52
27	77106.92	121094.24	157047.17
26	77088.39	121022.52	156991.88
25	77069.86	120950.85	156936.64
24	77051.32	120879.23	156881.45
23	77032.78	120807.67	156826.31
22	77014.23	120736.15	156771.23
21	76995.67	120664.68	156716.19
20	76977.10	120593.27	156661.21
19	76958.53	120521.90	156606.28
18	76939.95	120450.58	156551.41
17	76921.37	120379.31	156496.58
16	76902.78	120308.10	156441.81
15	76884.18	120236.93	156387.08
14	76865.58	120165.81	156332.41
13	76846.97	120094.75	156277.79
12	76828.35	120023.73	156223.22
11	76809.73	119952.76	156168.70
10	76791.10	119881.84	156114.24
9	76772.46	119810.97	156059.82
8	76753.82	119740.15	156005.46
7	76735.17	119669.38	155951.15
6	76716.51	119598.66	155896.89
5	76697.85	119527.99	155842.67
4	76679.18	119457.36	155788.51
3	76660.51	119386.79	155734.41
2	76641.83	119316.26	155680.35
1	76623.14	119245.79	155626.34
0	76604.44	119175.36	155572.38
50			

40	Sinus	Tangens	Secans
0	64278.76	83909.96	130540.73
1	64301.04	83959.54	130572.61
2	64323.32	84009.15	130604.51
3	64345.59	84058.78	130636.44
4	64367.85	84108.44	130668.39
5	64390.11	84158.12	130700.37
6	64412.36	84207.82	130732.38
7	64434.61	84257.55	130764.42
8	64456.85	84307.30	130796.49
9	64479.09	84357.08	130828.58
10	64501.32	84406.88	130860.70
11	64523.55	84456.70	130892.84
12	64545.77	84506.55	130925.01
13	64567.98	84556.43	130957.21
14	64590.19	84606.33	130989.43
15	64612.40	84656.25	131021.68
16	64634.60	84706.20	131053.96
17	64656.79	84756.17	131086.26
18	64678.98	84806.17	131118.59
19	64701.16	84856.19	131150.95
20	64723.34	84906.24	131183.34
21	64745.51	84956.31	131215.75
22	64767.67	85006.40	131248.19
23	64789.83	85056.52	131280.66
24	64811.99	85106.67	131313.16
25	64834.14	85156.84	131345.68
26	64856.28	85207.04	131378.23
27	64878.42	85257.26	131410.81
28	64900.55	85307.50	131443.41
29	64922.68	85357.77	131476.04
30	64944.80	85408.07	131508.70

	Sinus	Tangens	Secans
60	76604.44	119175.36	155572.38
59	76585.74	119104.98	155518.48
58	76567.03	119034.65	155464.62
57	76548.32	118964.37	155410.81
56	76529.60	118894.14	155357.06
55	76510.87	118823.95	155303.35
54	76492.14	118753.82	155249.70
53	76473.40	118683.73	155196.09
52	76454.65	118613.69	155142.54
51	76435.90	118543.70	155089.04
50	76417.14	118473.76	155035.58
49	76398.37	118403.87	154982.18
48	76379.60	118334.02	154928.82
47	76360.82	118264.22	154875.52
46	76342.04	118194.47	154822.26
45	76323.25	118124.77	154769.06
44	76304.45	118055.12	154715.90
43	76285.64	117985.51	154662.80
42	76266.83	117915.95	154609.74
41	76248.01	117846.44	154556.73
40	76229.19	117776.98	154503.78
39	76210.36	117707.56	154450.87
38	76191.52	117638.20	154398.01
37	76172.68	117568.88	154345.20
36	76153.83	117499.60	154292.44
35	76134.97	117430.38	154239.73
34	76116.11	117361.20	154187.06
33	76097.24	117292.07	154134.45
32	76078.37	117222.98	154081.89
31	76059.49	117153.95	154029.37
30	76040.60	117084.96	153976.90

40	Sinus	Tangens	Secans
30	64944.80	85408.07	131508.70
31	64966.92	85458.39	131541.39
32	64989.03	85508.73	131574.10
33	65011.14	85559.10	131606.84
34	65033.24	85609.50	131639.61
35	65055.33	85659.92	131672.41
36	65077.42	85710.37	131705.23
37	65099.50	85760.84	131738.08
38	65121.58	85811.33	131770.96
39	65143.66	85861.85	131803.86
40	65165.72	85912.40	131836.79
41	65187.78	85962.97	131869.75
42	65209.84	86013.57	131902.74
43	65231.89	86064.19	131935.76
44	65253.94	86114.84	131968.81
45	65275.98	86165.51	132001.88
46	65298.01	86216.21	132034.98
47	65320.04	86266.93	132068.11
48	65342.06	86317.68	132101.26
49	65364.08	86368.46	132134.44
50	65386.09	86419.26	132167.65
51	65408.10	86470.09	132200.89
52	65430.10	86520.94	132234.16
53	65452.09	86571.81	132267.45
54	65474.08	86622.71	132300.77
55	65496.06	86673.64	132334.12
56	65518.04	86724.60	132367.50
57	65540.01	86775.58	132400.91
58	65561.98	86826.59	132434.35
59	65583.94	86877.62	132467.81
60	65605.90	86928.68	132501.30

	Sinus	Tangens	Secans
29	76021.70	117016.01	153924.49
28	76002.80	116947.12	153872.12
27	75983.89	116878.27	153819.80
26	75964.98	116809.47	153767.52
25	75946.06	116740.71	153715.30
24	75927.13	116672.00	153663.12
23	75908.20	116603.34	153611.00
22	75889.26	116534.72	153558.92
21	75870.31	116466.15	153506.89
20	75851.36	116397.63	153454.91
19	75832.40	116329.16	153402.97
18	75813.43	116260.73	153351.09
17	75794.46	116192.34	153299.25
16	75775.48	116124.00	153247.46
15	75756.50	116055.71	153195.72
14	75737.51	115987.47	153144.03
13	75718.51	115919.27	153092.38
12	75699.50	115851.11	153040.78
11	75680.49	115783.01	152989.23
10	75661.47	115714.95	152937.73
9	75642.45	115646.93	152886.27
8	75623.42	115578.96	152834.87
7	75604.39	115511.04	152783.51
6	75585.35	115443.16	152732.19
5	75566.30	115375.32	152680.93
4	75547.24	115307.54	152629.71
3	75528.18	115239.79	152578.54
2	75509.11	115172.10	152527.41
1	75490.04	115104.45	152476.34
0	75470.96	115036.84	152425.31
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41	*Sinus*	*Tangens*	*Secans*
1	65627.85	86979.76	132534.8
2	65649.80	87030.87	132568.3
3	65671.74	87082.00	132601.9
4	65693.67	87133.16	132635.5
5	65715.60	87184.35	132669.1
6	65737.52	87235.56	132702.8
7	65759.44	87286.80	132736.5
8	65781.35	87338.06	132770.2
9	65803.26	87389.35	132803.99
10	65825.16	87440.67	132837.76
11	65847.06	87492.01	132871.56
12	65868.95	87543.38	132905.39
13	65890.83	87594.78	132939.25
14	65912.71	87646.20	132973.14
15	65934.58	87697.65	133007.06
16	65956.45	87749.12	133041.00
17	65978.31	87800.62	133074.97
18	66000.17	87852.15	133108.97
19	66022.02	87903.70	133143.00
20	66043.86	87955.28	133177.06
21	66065.70	88006.89	133211.15
22	66087.53	88058.52	133245.27
23	66109.36	88110.18	133279.42
24	66131.18	88161.86	133313.59
25	66153.00	88213.57	133347.79
26	66174.81	88265.31	133382.02
27	66196.62	88317.07	133416.28
28	66218.42	88368.86	133450.57
29	66240.22	88420.68	133484.89
30	66262.01	88472.53	133519.24

	Sinus	Tangens	Secans
59	75451.87	114969.28	152374.33
58	75432.78	114901.76	152323.39
57	75413.68	114834.29	152272.50
56	75394.57	114766.87	152221.66
55	75375.46	114699.49	152170.87
54	75356.34	114632.15	152120.12
53	75337.21	114564.86	152069.42
52	75318.08	114497.62	152018.76
51	75298.94	114430.41	151968.15
50	75279.80	114363.26	151917.59
49	75260.65	114296.15	151867.08
48	75241.49	114229.08	151816.61
47	75222.33	114162.06	151766.19
46	75203.16	114095.08	151715.81
45	75183.98	114028.15	151665.48
44	75164.80	113961.26	151615.20
43	75145.61	113894.41	151564.96
42	75126.41	113827.61	151514.77
41	75107.21	113760.85	151464.62
40	75088.00	113694.14	151414.52
39	75068.79	113627.47	151364.47
38	75049.57	113560.85	151314.46
37	75030.34	113494.27	151264.50
36	75011.11	113427.73	151214.59
35	74991.87	113361.24	151164.72
34	74972.62	113294.79	151114.89
33	74953.37	113228.39	151065.11
32	74934.11	113162.03	151015.38
31	74914.84	113095.71	150965.69
30	74895.57	113029.44	150916.05
48		L 4	

41	Sinus	Tangens	Secans
31	66283.79	88524.40	133553.62
32	66305.57	88576.30	133588.03
33	66327.34	88628.22	133622.46
34	66349.11	88680.17	133656.92
35	66370.87	88732.15	133691.41
36	66392.62	88784.16	133725.94
37	66414.37	88836.20	133760.49
38	66436.11	88888.26	133795.07
39	66457.85	88940.34	133829.68
40	66479.59	88992.45	133864.32
41	66501.32	89044.59	133898.99
42	66523.04	89096.75	133933.69
43	66544.75	89148.94	133968.42
44	66566.46	89201.16	134003.17
45	66588.17	89253.41	134037.95
46	66609.87	89305.69	134072.76
47	66631.56	89357.99	134107.61
48	66653.25	89410.32	134142.48
49	66674.93	89462.68	134177.38
50	66696.61	89515.06	134212.32
51	66718.28	89567.47	134247.28
52	66739.94	89619.91	134282.27
53	66761.60	89672.38	134317.29
54	66783.26	89724.87	134352.34
55	66804.91	89777.39	134387.42
56	66826.55	89829.94	134422.53
57	66848.18	89882.52	134457.67
58	66869.81	89935.12	134492.84
59	66891.44	89987.75	134528.04
60	66913.06	90040.41	134563.27

	Sinus	Tangens	Secans
29	74876.29	112963.21	150866.45
28	74857.01	112897.02	150816.90
27	74837.72	112830.88	150767.39
26	74818.42	112764.78	150717.93
25	74799.12	112698.72	150668.52
24	74779.81	112632.71	150619.15
23	74760.49	112566.74	150569.82
22	74741.17	112500.81	150520.54
21	74721.84	112434.93	150471.31
20	74702.51	112369.09	150422.11
19	74683.17	112303.29	150372.97
18	74663.82	112237.54	150323.87
17	74644.46	112171.83	150274.81
16	74625.10	112106.16	150225.80
15	74605.74	112040.53	150176.83
14	74586.37	111974.95	150127.91
13	74566.99	111909.41	150079.03
12	74547.60	111843.91	150030.20
11	74528.21	111778.46	149981.41
10	74508.81	111713.05	149932.67
9	74489.40	111647.68	149883.97
8	74469.99	111582.35	149835.31
7	74450.57	111517.06	149786.70
6	74431.15	111451.82	149738.13
5	74411.72	111386.62	149689.61
4	74392.29	111321.46	149641.13
3	74372.85	111256.35	149592.70
2	74353.40	111191.27	149544.30
1	74333.94	111126.24	149495.96
0	74314.48	111061.25	149447.65
48		L 5	

42	*Sinus*	*Tangens*	*Secans*
1	66934.67	90093.09	134598.53
2	66956.28	90145.80	134633.82
3	66977.88	90198.54	134669.14
4	66999.48	90251.31	134704.49
5	67021.07	90304.11	134739.87
6	67042.66	90356.94	134775.28
7	67064.24	90409.79	134810.72
8	67085.82	90462.67	134846.19
9	67107.39	90515.58	134881.69
10	67128.95	90568.51	134917.21
11	67150.51	90621.47	134952.77
12	67172.06	90674.46	134988.36
13	67193.61	90727.48	135023.98
14	67215.15	90780.53	135059.63
15	67236.68	90833.60	135095.31
16	67258.21	90886.71	135131.02
17	67279.73	90939.84	135166.76
18	67301.25	90993.00	135202.54
19	67322.76	91046.19	135238.34
20	67344.27	91099.41	135274.17
21	67365.77	91152.65	135310.03
22	67387.27	91205.92	135345.93
23	67408.76	91259.22	135381.86
24	67430.24	91312.55	135417.81
25	67451.72	91365.91	135453.79
26	67473.19	91419.29	135489.83
27	67494.66	91472.70	135525.85
28	67516.12	91526.15	135561.93
29	67537.57	91579.62	135598.03
30	67559.02	91633.12	135634.17

	Sinus	Tangens	Secans
59	74295.01	110996.30	149399.40
58	74275.54	110931.40	149351.18
57	74256.06	110866.53	149303.01
56	74236.57	110801.71	149254.88
55	74217.08	110736.93	149206.80
54	74197.58	110672.19	149158.75
53	74178.08	110607.50	149110.76
52	74158.57	110542.84	149062.80
51	74139.05	110478.23	149014.89
50	74119.53	110413.65	148967.03
49	74100.00	110349.12	148919.20
48	74080.46	110284.63	148871.42
47	74060.92	110220.19	148823.69
46	74041.37	110155.78	148775.99
45	74021.81	110091.41	148728.34
44	74002.25	110027.09	148680.73
43	73982.68	109962.81	148633.17
42	73963.11	109898.56	148585.65
41	73943.53	109834.36	148538.17
40	73923.94	109770.20	148490.73
39	73904.35	109706.08	148443.34
38	73884.75	109642.01	148395.99
37	73865.15	109577.97	148348.68
36	73845.54	109513.97	148301.42
35	73825.92	109450.02	148254.20
34	73806.29	109386.10	148207.02
33	73786.66	109322.23	148159.88
32	73767.02	109258.40	148112.78
31	73747.38	109194.60	148065.73
30	73727.73	109130.85	148018.72

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	Sinus	Tangens	Secans
31	67580.46	91686.65	135670.34
32	67601.90	91740.20	135706.54
33	67623.33	91793.79	135742.77
34	67644.76	91847.40	135779.03
35	67666.18	91901.04	135815.32
36	67687.60	91954.71	135851.64
37	67709.01	92008.41	135888.00
38	67730.41	92062.14	135924.38
39	67751.81	92115.90	135960.80
40	67773.20	92169.68	135997.25
41	67794.59	92223.50	136033.72
42	67815.97	92277.34	136070.23
43	67837.34	92331.22	136106.77
44	67858.71	92385.12	136143.34
45	67880.07	92439.05	136179.95
46	67901.43	92493.01	136216.58
47	67922.78	92547.00	136253.24
48	67944.13	92601.01	136289.94
49	67965.47	92655.06	136326.67
50	67986.81	92709.14	136363.43
51	68008.14	92763.24	136400.22
52	68029.46	92817.38	136437.04
53	68050.78	92871.54	136473.89
54	68072.09	92925.73	136510.78
55	68093.39	92979.96	136547.70
56	68114.69	93034.21	136584.64
57	68135.99	93088.49	136621.62
58	68157.28	93142.80	136658.63
59	68178.56	93197.14	136695.67
60	68199.84	93251.51	136732.75

	Sinus	Tangens	Secans.
30	73727.73	109130.85	148018.72
29	73708.08	109067.14	147971.76
28	73688.42	109003.47	147924.83
27	73668.75	108939.83	147877.95
26	73649.07	108876.24	147831.11
25	73629.39	108812.69	147784.31
24	73609.71	108749.18	147737.55
23	73590.02	108685.71	147690.84
22	73570.32	108622.28	147644.17
21	73550.61	108558.89	147597.54
20	73530.90	108495.54	147550.95
19	73511.18	108432.23	147504.40
18	73491.46	108368.96	147457.90
17	73471.73	108305.73	147411.44
16	73451.99	108242.54	147365.01
15	73432.25	108179.39	147318.64
14	73412.50	108116.28	147272.30
13	73392.75	108053.21	147226.00
12	73372.99	107990.18	147179.75
11	73353.22	107927.18	147133.53
10	73333.45	107864.23	147087.36
9	73313.67	107801.32	147041.23
8	73293.88	107738.44	146995.14
7	73274.09	107675.61	146949.10
6	73254.29	107612.82	146903.09
5	73234.48	107550.06	146857.13
4	73214.67	107487.34	146811.20
3	73194.85	107424.67	146765.32
2	73175.03	107362.03	146719.48
1	73155.20	107299.43	146673.68
0	73135.37	107236.87	146627.92

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43	Sinus	Tangens	Secans
0	68199.84	93251.51	136732.75
1	68221.11	93305.91	136769.85
2	68242.37	93360.34	136806.99
3	68263.63	93414.79	136844.16
4	68284.88	93469.28	136881.36
5	68306.13	93523.80	136918.59
6	68327.37	93578.34	136955.86
7	68348.61	93632.92	136993.15
8	68369.84	93687.53	137030.48
9	68391.07	93742.16	137067.84
10	68412.29	93796.83	137105.23
11	68433.50	93851.52	137142.66
12	68454.71	93906.25	137180.11
13	68475.91	93961.01	137217.60
14	68497.11	94015.79	137255.12
15	68518.30	94070.61	137292.68
16	68539.48	94125.45	137330.26
17	68560.66	94180.33	137367.88
18	68581.83	94235.23	137405.53
19	68603.00	94290.17	137443.21
20	68624.16	94345.13	137480.92
21	68645.32	94400.13	137518.67
22	68666.47	94455.16	137556.45
23	68687.61	94510.21	137594.26
24	68708.75	94565.30	137632.10
25	68729.88	94620.42	137669.98
26	68751.01	94675.56	137707.89
27	68772.13	94730.74	137745.83
28	68793.24	94785.95	137783.80
29	68814.35	94841.19	137821.81
30	68835.45	94896.46	137859.85

	Sinus	Tangens	Secans
60	73135.37	107236.87	146627.92
59	73115.53	107174.35	146582.20
58	73095.68	107111.87	146536.52
57	73075.83	107049.43	146490.88
56	73055.97	106987.02	146445.29
55	73036.10	106924.66	146399.73
54	73016.23	106862.33	146354.22
53	72996.35	106800.04	146308.75
52	72976.46	106737.79	146263.31
51	72956.57	106675.58	146217.92
50	72936.67	106613.41	146172.57
49	72916.77	106551.28	146127.26
48	72896.86	106489.18	146081.98
47	72876.94	106427.13	146036.75
46	72857.02	106365.11	145991.56
45	72837.09	106303.13	145946.41
44	72817.16	106241.19	145901.30
43	72797.22	106179.29	145856.23
42	72777.27	106117.42	145811.20
41	72757.32	106055.60	145766.21
40	72737.36	105993.81	145721.27
39	72717.40	105932.06	145676.36
38	72697.43	105870.34	145631.49
37	72677.45	105808.67	145586.66
36	72657.47	105747.03	145541.87
35	72637.48	105685.44	145497.12
34	72617.48	105623.88	145452.41
33	72597.48	105562.35	145407.74
32	72577.47	105500.87	145363.11
31	72557.46	105439.42	145318.52
30	72537.44	105378.01	145273.97

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43	Sinus	Tangens	Secans
30	68835.45	94896.46	137859.85
31	68856.55	94951.76	137897.92
32	68877.64	95007.09	137936.02
33	68898.73	95062.45	137974.16
34	68919.81	95117.84	138012.33
35	68940.89	95173.26	138050.53
36	68961.96	95228.71	138088.77
37	68983.02	95284.20	138127.04
38	69004.07	95339.71	138165.34
39	69025.12	95395.26	138203.67
40	69046.17	95450.83	138242.04
41	69067.21	95506.44	138280.44
42	69088.24	95562.08	138318.87
43	69109.27	95617.74	138357.34
44	69130.29	95673.44	138395.84
45	69151.31	95729.17	138434.37
46	69172.32	95784.94	138472.94
47	69193.32	95840.73	138511.54
48	69214.32	95896.55	138550.17
49	69235.31	95952.41	138588.83
50	69256.30	96008.29	138627.53
51	69277.28	96064.21	138666.26
52	69298.25	96120.16	138705.03
53	69319.22	96176.14	138743.83
54	69340.18	96232.15	138782.66
55	69361.14	96288.19	138821.53
56	69382.09	96344.27	138860.42
57	69403.04	96400.37	138899.36
58	69423.98	96456.51	138938.32
59	69444.91	96512.68	138977.32
60	69465.84	96568.88	139016.36

	Sinus	*Tangens*	*Secans*
29	72517.41	105316.64	145229.46
28	72497.38	105255.31	145184.98
27	72477.34	105194.01	145140.55
26	72457.29	105132.75	145096.16
25	72437.24	105071.53	145051.81
24	72417.18	105010.34	145007.49
23	72397.12	104949.20	144963.22
22	72377.05	104888.09	144918.98
21	72356.98	104827.02	144874.78
20	72336.90	104765.98	144830.63
19	72316.81	104704.98	144786.51
18	72296.71	104644.02	144742.43
17	72276.61	104583.10	144698.39
16	72256.51	104522.21	144654.39
15	72236.40	104461.36	144610.43
14	72216.28	104400.55	144566.51
13	72196.15	104339.77	144522.62
12	72176.02	104279.04	144478.78
11	72155.88	104218.33	144434.97
10	72135.74	104157.67	144391.20
9	72115.59	104097.04	144347.48
8	72095.44	104036.45	144303.79
7	72075.28	103975.89	144260.13
6	72055.11	103915.37	144216.52
5	72034.94	103854.89	144172.95
4	72014.76	103794.45	144129.41
3	71994.57	103734.04	144085.91
2	71974.38	103673.67	144042.46
1	71954.18	103613.33	143999.04
0	71933.98	103553.03	143955.65

44	Sinus	Tangens	Secans
1	69486.76	96625.11	139055.43
2	69507.67	96681.37	139094.53
3	69528.58	96737.67	139133.66
4	69549.49	96794.00	139172.83
5	69570.39	96850.35	139212.03
6	69591.28	96906.74	139251.27
7	69612.17	96963.16	139290.54
8	69633.05	97019.62	139329.85
9	69653.92	97076.10	139369.18
10	69674.79	97132.62	139408.56
11	69695.65	97189.17	139447.96
12	69716.51	97245.75	139487.40
13	69737.36	97302.36	139526.88
14	69758.21	97359.01	139566.39
15	69779.05	97415.69	139605.93
16	69799.88	97472.40	139645.51
17	69820.71	97529.14	139685.12
18	69841.53	97585.91	139724.77
19	69862.34	97642.72	139764.45
20	69883.15	97699.56	139804.16
21	69903.96	97756.43	139843.91
22	69924.76	97813.33	139883.69
23	69945.55	97870.27	139923.51
24	69966.33	97927.24	139963.36
25	69987.11	97984.24	140003.25
26	70007.89	98041.27	140043.17
27	70028.66	98098.33	140083.13
28	70049.42	98155.43	140123.12
29	70070.18	98212.56	140163.15
30	70090.93	98269.73	140203.21

	Sinus	Tangens	Secans
59	71913.77	103492.77	143912.31
58	71893.55	103432.54	143869.00
57	71873.33	103372.35	143825.74
56	71853.10	103312.20	143782.51
55	71832.87	103252.08	143739.32
54	71812.63	103191.99	143696.16
53	71792.38	103131.95	143653.05
52	71772.13	103071.94	143609.97
51	71751.87	103011.96	143566.93
50	71731.61	102952.03	143523.93
49	71711.34	102892.12	143480.97
48	71691.06	102832.26	143438.05
47	71670.78	102772.43	143395.16
46	71650.49	102712.63	143352.31
45	71630.19	102652.87	143309.50
44	71609.89	102593.15	143266.72
43	71589.58	102533.46	143223.99
42	71569.27	102473.81	143181.29
41	71548.95	102414.19	143138.63
40	71528.63	102354.61	143096.00
39	71508.30	102295.06	143053.42
38	71487.96	102235.55	143010.87
37	71467.62	102176.08	142968.36
36	71447.27	102116.64	142925.88
35	71426.91	102057.23	142883.44
34	71406.55	101997.86	142841.04
33	71386.18	101938.53	142798.68
32	71365.81	101879.23	142756.36
31	71345.43	101819.97	142714.07
30	71325.05	101760.74	142671.82

45

44	Sinus	Tangens	Secans
31	70111.67	98326.92	140243.30
32	70132.41	98384.15	140283.43
33	70153.14	98441.41	140323.60
34	70173.87	98498.71	140363.80
35	70194.59	98556.03	140404.03
36	70215.30	98613.39	140444.30
37	70236.01	98670.79	140484.60
38	70256.71	98728.21	140524.94
39	70277.41	98785.67	140565.32
40	70298.10	98843.16	140605.73
41	70318.79	98900.69	140646.17
42	70339.47	98958.25	140686.65
43	70360.14	99015.84	140727.17
44	70380.81	99073.46	140767.72
45	70401.47	99131.12	140808.31
46	70422.13	99188.81	140848.93
47	70442.78	99246.54	140889.58
48	70463.42	99304.29	140930.28
49	70484.06	99362.08	140971.00
50	70504.69	99419.91	141011.77
51	70525.32	99477.77	141052.56
52	70545.94	99535.66	141093.40
53	70566.55	99593.58	141134.27
54	70587.16	99651.54	141175.17
55	70607.76	99709.53	141216.11
56	70628.35	99767.56	141257.09
57	70648.94	99825.62	141298.10
58	70669.53	99883.71	141339.15
59	70690.11	99941.84	141380.24
60	70710.68	100000.00	141421.36

	Sinus	Tangens	Secans
29	71304.66	101701.55	142629.61
28	71284.26	101642.39	142587.43
27	71263.85	101583.26	142545.29
26	71243.44	101524.17	142503.19
25	71223.02	101465.12	142461.12
24	71202.60	101406.10	142419.09
23	71182.17	101347.12	142377.10
22	71161.74	101288.17	142335.14
21	71141.30	101229.25	142293.23
20	71120.86	101170.37	142251.34
19	71100.41	101111.53	142209.50
18	71079.95	101052.72	142167.69
17	71059.48	100993.94	142125.92
16	71039.01	100935.20	142084.18
15	71018.54	100876.49	142042.48
14	70998.06	100817.82	142000.82
13	70977.57	100759.18	141959.19
12	70957.07	100700.58	141917.61
11	70936.57	100642.01	141876.05
10	70916.07	100583.47	141834.54
9	70895.56	100524.97	141793.05
8	70875.04	100466.51	141751.61
7	70854.51	100408.07	141710.20
6	70833.98	100349.68	141668.83
5	70813.45	100291.31	141627.49
4	70792.91	100232.98	141586.19
3	70772.36	100174.69	141544.93
2	70751.80	100116.42	141503.70
1	70731.24	100058.19	141462.51
0	70710.68	100000.00	141421.36

Vsus tabularum in Trigonometria Triangulorum planorum.

TRiangula plana trium sunt generum, nempe Triangula Rectangula, Obtusangula & Acutangula, quorum descriptionem in libro primo Euclidis definitione 27, 28, 29 videre licet.

Trigonometria Trianguli Rectanguli reliquorum duorum est fundamentum, ita ut illa, cum dimetienda veniunt, singula in duo triangula rectangula dissecanda sint.

Ad illorum descriptionem & delineationem tria semper scitu necessaria sunt, ex illis sex, quæ triangulum constituunt.

Aut duo latera cum angulo ab iis comprehenso secundum 4 Propos.

Aut tria latera secundum propos. 8.

Aut latus alterum cum duobus angulis secund. propos. 26 lib. 1 Euclidis.

Quibus cognitis reliqua ignota investigantur.

Fundamentum hujus calculi demonstrat propos. 32 & 47 lib. 1. & præsertim propos. 4. lib. 6 Euclidis; & sustinet usus duorum triangulorum similium, quorum alter in campo per suos limites & per perticas in angulis delineatur, alter vero ad hujus formam ex numeris tabularum construitur.

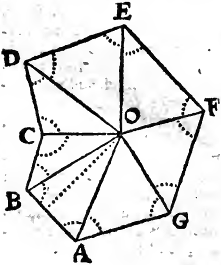
Sed cum in omnium dimensionum calculo maxime necessarium sit, scire, cujus radii respectu his tabulis utendum sit, ne frustraneo geometra obruatur opere, & tamen id sortiatur quam accuratissime; cujus gratia calculum instituit, itaque: ut in circulis dimetiendis fit,

quorum

quorum numeri proportionales plurium sumuntur cyphrarum, Circulus si magnus proponatur; pauciorum autem si minor peripheria se calculo subjicit, agendum est & numeri harum tabularum plures, vel pauciores, respectu ad radium minorem, vel majorem, secundum triangulorum capacitatem & amplitudinem, seu pauciorum pluriumve triangulorum copula, sumendi sunt.

Sin autem aliquis laboris exantlandi metu numeris harum tabularum respectu radii 10000 uti paret, ipsique dimetiendum sit Triangulum A B O, cujus basis sit 1000, & perpendicularis 2000 Virgarum, cum propter incertitudinem ultimarum cyphrarum, quæ in tabulis sunt, hic etiam singulorum minus accurata fuerit ratio, & ita ut pes abundaverit vel defecerit, illa certe differentia 150 virg. addet vel demet genuinæ trianguli areæ: quod notandum est.

Et si illud triangulum portio esset stagni amplissimi, cujus termini radios oculorum nostrorum effugerent, A B C D E F G, quod melioris dimensionis gratiâ ex puncto O, in centro circiter propositi stagni sito in triangula distinctum fuerit, cujus latus



latus A B, cum adjacentib. angulis solummodo dimensurari queat, & sic ex triangulo A B O, totius stagni capacitas investiganda veniat, progrediendo ad A G, & iterum ad A B O deveniendo, lineæ B O longitudo ultimò inventa à longitudine ejusdem lineæ prius inventæ multum differre videbitur.

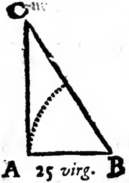
Huic autem errori ut obviam eatur, magnitudo linearum usque ad virgarum minutias minutissimas (sicut anguli ad minutas graduum quoque mensurandi sunt) supputanda est, quod hic, nisi numeris tabularum, quæ radium 1000000 agnoscunt, & propter ultimæ cyphræ incertitudinem, numeris radii 10000000 fieri non potest, quibus itaque meritò utendum.

Stevinus lib. 2. suæ Cosmographiæ fol. 148, de usu harum tabularum ita scribit:

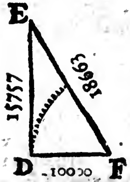
Semidiametrum tabularum quam proximè debere convenire numero partium, quas semidiameter Instrumenti comprehendere poterit ex partibus sui arcuş minutissimis, & cum ille angulos minutis quoque dimetiatur, quadrans Instrumenti 5400 minutas seu partes, in quas dividi poterit, minutissimas conficiet, quarum 3438 semidiameter Instrumenti comprehendet, quas quoque Radius tabularum exæquare debet: sed quia hic numerus ad calculum instruendum ineptus est, proximum ille huic numerum decimalem 10000 seligit, hunc esse convenientem semidiametri numerum affirmans, cujus respectu tabulis & instrumento in minutas diviso utendum sit Sin autem quis angulos usque ad secundas minutas dimensus fuerit, huic numeris, radii 1000000, & si usque ad tertias devenerit,

venerit, numeris radii 100000000 seu ad minimum 10000000 utendum esse, ait.

His præmissis ad triangulorum nos conferemus calculum, initium hujus à Rectangulis facturi Triangulis, quæ latus unum cum duobus angulis, ut nota, exhibent:



Ex. G. In Triangulo plano Rectangulo proposito A B C, præter Angulum A rectum, datur angulus B 57 gr. 36 min. cum latere A B 25 virgar. Quæritur angulus & latus ignota.



Vt tuo voto satisfacere possis, prius numeri tuo instituto convenientes ex tabulis seligendi sunt sequenti ordine; imaginare tibi Triangulum rectangulum D E F, cujus latus D F (cum latere A B dato conveniens) ponatur esse 10000 partium, & sic D E (quæ cum A C convenit) erit partium 15757, ut tangens, & E F (ipsi CB conveniens) 18663, ut secans anguli F aut B 57 gr. 36 min. his sic ordinatis in operatione secundum 4 proposit. lib. 6 Euclidis sic perge.

Partes D F   A B *long.*   *partes.*

10000 —— 25 —— { D E 15757 / E F 18663

Facit longitudo laterum { A C 39. 393 (3) / C B 46. 657 (3)

Angulus autem C sic invenietur, cum A

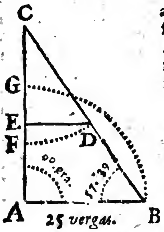
M 5   angulus

angulus rectus fit, secundum propos. 32. lib, 1. Euclidis B & C angulum rectum conficiunt: quapropter Angulus B 57 gr. 36 min. à 90 gr. subtractus, residuum 32 gr. 24 min. Angulum C exhibet.

Aliter autem fit secundum regulam communem, quæ ita se habet.

In omnibus triangulis, ut se habet Sinus anguli unius ad latus oppositum, sic se quoq; habeat Sinus reliquorum angulorum ad latera opposita, & vice versa.

Itaque ut se habet 5358 sinus anguli C ad 25 latus sibi oppositum A B, sic 10000 sinus anguli recti A, se habet ad latus B C, & 8443 sinus anguli B ad latus A C: operatione facta numeri emergent ut supra.

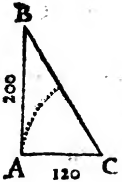


Demonstratio.

Latus A B ponatur ex C in D, & ad distantiam C D ex angulis A & C describantur arcus B G & D F, post ex puncto D perpendicularem DE demitte, quæ est sinus arcus D F seu anguli C, & A B sinus arcus B G aut anguli recti A;

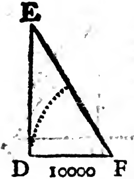
Itaque ut (secundum 4. lib. 6.) D E, sinus anguli C se habet ad C D, latus nempe sibi oppositum A B, sic A B sinus anguli recti A se habet ad C B, oppositum nempe latus.

Exem-



Exempla, in quibus duo latera una cum uno angulo nota sunt.

Angulus A trianguli A B C esto rectus, latusque A C virgarum 120 & A B 200 virg. residuum latus, & reliqui investigandi sunt anguli.



Esto D E F, triangulum tabularum, simile triangulo A B C, cujus latus D F sit 10000, sic D E erit tangens anguli F aut C, qui sic invenitur.

A C *part.*	D F	A B
120 ——	10000 ——	200

Facit D E 16667 partes, quæ in classe tangentium quæsitæ prope 59 gr. 2 min. capacitatem anguli C, se sistunt. hos gradus subtrahe à 90 gr. residuum erit angulus B 30 gr. 58 min.

Latus B C autem sequenti investigabis modo.

Part. D F	*long.* A C	*sec.* B C
10000 ——	120 ——	19435

$$\begin{array}{r} 19435 \\ 120 \\ \hline 388700 \\ 19435 \\ \hline \end{array}$$

Facit latus B C 233|22 (2)

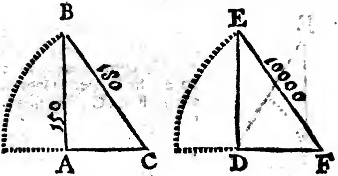
Aliter

Aliter etiam B C *per* 47 l. 1. *Sic invenitur* quadrata.

40000 A B } Add.
14400 A C }

54400 B C, ex his extracta radix 233, 23 (2) facit pro B C paulum superiori major numerus.

Sequuntur jam alia exempla.



Trianguli A B C angulus A esto rectus, latus A B 150, & B C 180 virgarum, reliquum latus & anguli sunt inquirenda.

Esto iterum ex tabulis triangulum D E F simile triangulo A B C, cujus latus E F sit radius seu 10000, sic erit E D sinus anguli F aut C; qui sic invenitur.

B C *part.* E F A B
180 —— 10000 —— 150 facit 8333, qui in tabulis quæsiti sub titulo sinus & inventi 56 gr. 26 min. capacitatem nempe anguli C ostendunt. hic subtractus à 90 grad. relinquet angulum B 33 gr. 34 min. latus autem A C sic invenies.

Part.

Part. E F		B C		*Sinus* D F
10000	—	180	—	5529
				180
				442320
				5529
Facit latus A C.				99|5220

Alio modo per 47 l. 1.

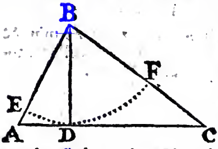
Quadrat.

Subtr. { 32400 B C
22500 A B

Reſiduum 9900 A C. ex his radix quadrata extracta numerum dabit ſuperiore paulo minorem, qui latus A C menſurabit.

In triangulis rectangulis, quorum latera ſeorſim nota ſunt, anguli quoque ſeorſim ſecundum exemplorum præcedentium modum reperiuntur, quapropter hic exempla apponere ſupervacaneum duxi.

Progrediendum itaque nobis ad triangula acutangula, & quidem initium ab iis triangulis ſumemus, quorum latus unum & duo anguli nota ſunt, ſequenti modo.



Trianguli hujus A B C baſis A C eſto 500 virgar. angulus A autem 67 gr. 18. min. angulus B 36 gr. 54 min. reliquus angulus & latera inveſtiganda ſunt.

Vt voto noſtro ſatisfieri poſſit, triangulum noſtrum in duo triangula rectangula perpendiculari

diculari linea ex aliquo angulorum in oppositum latus demissâ dispescendum est, quod hic sit quamoptimè per lineam perpendicularem B D duo triangula rectangula A B D & D B C subministrante.

Si itaque perpendicularis sumatur pro radio ut partium 100000 & fiat arcus E D F, A D 41831 erit tangens & A B 108397 secans anguli A B D, qui (secundum 31 lib. I.) est 22 graduum 42 minutorum. Sic quoque D C erit 123931 tangens, & B C 159245 secans anguli D B C 51 gr. 6 min.

In operatione porro perge, sequenti modo.

Tangens:
41831 A D
123931 D C

	A C	*partes* B D	
165762	500 ——	100000	facit

perpendicularis B D 301. 637 (3)

part. B D —— *long.* B D *part.*

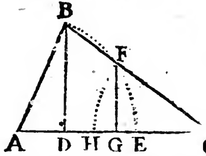
100000 —— 301. 637 (3) { A B 108397 / B C 159245.

Facit { A B 326. 965 (3) / B C 480. 042 (3)

Tandem anguli A B D 22 gr. 42 min. & D B C 51 gr. 6 min in summam collecti angulum B 73 gr. 48 min. exhibent.

Aliter

Aliter quoque fit per praecedentem regulam.



Vt 96029 sinus anguli B se habet ad latus oppositum A C 500 (0) sic 92254 sinus anguli A se habet ad latus B C & 62796 sinus anguli ad latus A B. Facit latus B C 480. 344(3) & A B 326. 964(3)

Demonstratio.

Esto C F similis A B. ad hanc distantiam ducito ex A & C arcum B E, & F H tunc perpendicularis B D sinus erit arcus B E aut anguli A, & F G sinus arcus F H aut anguli C.

Itaque ut F C latus nempe A B se habet ad F G sinum anguli C, sic latus B C se habet ad B D sinum anguli A.

Porro perpendicularis B D sic inveniatur.

Sinus A B	*longit.* A B	*Sinus* B D
100000 —	326. 964 (3) —	92254.

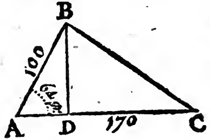
```
         . 92254
        1307856
       1634820
       653928
      653928
     2942676
     301. 63736856 (8)
```

301. 63736856 (8) perp. B D, ut supra.

Exem-

Exemplum, ubi ex duobus datis lateribus & angulo ab iis comprehenso reliqua investiganda sunt.

Sunto trianguli A B C, data latera A B 100 & A C 170 (0) cum angulo A 64 gr. & reliquum latus cum angulis investigandum est.



Triangulum propositum A B C per perpendicularem ex angulo B vel C (nihil enim refert, unde perpendiculum demittatur) demissam in duo dispescatur triangula rectangula A B D & D B C: Si itaque trianguli A B D latus A B 100000 partium sumatur, latus B D erit (sinus anguli A) 89829, & A D (sinus anguli A B D) 43837:

Ergo *Sinus* (2)

	A B			
100000 -- 100	89879 43837	facit	B D 89.879 A D 43.837

Ad investigandum vero angulum C, subtrahe A D ex A C, restabit D C 126.163 (3) quod si pro radio sumptum fuerit, B D erit tangens anguli C. Ergo:

D C — *partes* — B D.
126.163 (3) —— 100000 —— 89 879 (3)

Facit 71240 partes, quæ in tabulis tangentium quæsitæ angulum C 35 gr. 28 min. declarant, & sic quoque angulus B secundum 32. lib. 1. erit, 80 gr. 32. min.

Latus B C autem inveniri poterit secundum 47. lib. 1. vel ita brevius: D C

D C radii munus habeat, & sic B C secantem anguli C aget, calculusque instituetur sequenti modo :

Radius	D C	*secans* B C
100000 —	126. 163 (3) —	122782.

Facit latus B C 154. 905 (3)

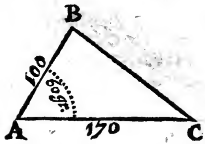
Hic autem omnino reticere nescio regulam, cujus ope anguli seorsim reperiri poterunt : quæ sic habet :

Vt summa duorum laterum ad differentiam eorundem : ita tangens dimidii summæ duorum angulorum oppositorum ad tangentem differentiæ cujusvis anguli & dimidii summæ eorundem.

Enucleatio per numeros in triangulo A B C.

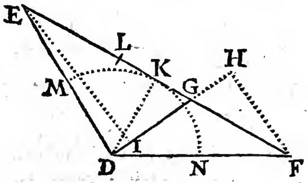
170 A C	170 A C	*Tang.* 58. *gr. dimidii*
100 A B	100 A B	*angul. oppos.* B & C.
270 summa laterum. —	70 differentia —	160033

Facit 41490 Tangens 22 gr. 32 min. differentiæ uniuscujusvis anguli & dimidii summæ eorundem, quare hanc adde & subtrahe à dimidio 58 gr. Eritque angulus, B. 80 gr. 32 min. & angulus C. 35 gr. 28 qui inveniendi erant.



 Demon-

Fiat triangulum æquicrurum D E F, cujus angulus D sua capacitate exæquet utrumque angulum B & C, nempè pars E D G angulum



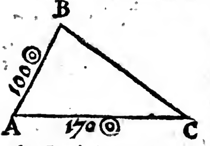
B, & G D F angulum C, his factis ex D perpendicularis D K demittatur, & ad hanc capacitatem arcus M N describatur, eriganturque perpendiculares E I & F H in lineâ D G, quarum E I est sinus anguli E D G vel B & F H sinus anguli G D F vel C. hi sinus ea proportione se invicem respiciunt, qua oppositâ latera A C & A B vel (secundum 4 l. 6) ut E G se habet ad G F, quorum K F (horum dimidium) est tangens dimidii summæ angulorum oppositorum B & C & L G, differentia inter E G & G F latera A C & A B, cum K G illorum dimidio exhibens.

Itaque, ut E F summa laterum se habet ad L G eorundem differentiam, sic se habet K F tangens dimidii summæ angulorum B & C ad K G tangentem differentiæ cujusvis anguli & dimidii summæ eorundem.

Vt se habet latus datum minus ad latus datum majus, sic se habet Secans complementi Anguli dati ad numerum (si scilicet angulus datus acutus fuerit) à quo si tangens complementi subtrahatur (sin autem obtusus fuerit, addatur) semper emerget Tangens complementi anguli minori lateri oppositi.

Declaratio per numeros.

A B — A C — *Secans Complem.*
100 — 170 — 111260.
Facit 189142
48773 *Tangens Complementorum.*
Restat 140369 Tang. 54 gr. 32 min. cujus complementum (seu defectus à 90 gr.) 35 gr. 28 min. est angulus C minori lateri oppositus; itaque per 32 l. 1 angulus B erit 80 gr. 32 min. ut supra.



Sin autem in præcedenti triangulo A B C latus tantum incognitum investigandum incumbat, sequenti id expedietur regula.

Vt se habet semidiameter ad complementum sinus anguli dati, sic se habet duplum parallelogrammi lateris, dati ad differentiam summæ quadratorum

rum suorum ut quadratum lateris incogniti.

Itaque, si angulus datus acutus erit, inventa differentia subtrahenda est; sin obtusus, illa ipsa addenda est summæ quadratorum laterum datorum, & sic habebis quadratum lateris incogniti.

Declaratio per numeros.

		.170	A C
		100	A B
		17000	
Radius	*Sinus* 26 gr.	2	
100000 ——	43837 ——	34000	
	34		
	175348		
	131511		
Differ.	1490458 subtrah.		
	38900	quad. A B, A C	

Rest. 2399542 (2) quad. B C, cujus radix est 154905 (3) latus nempe B C ut supra.

Idem per aliam expediri poterit regulam; quæ sic se habet.

Vt se habet Semidiameter ad differentiam sui & sinus complementi anguli dati (si angulus fuerit acutus) vel ad summam utriusque (si obtusus) sic duplum producti laterum ad quadratum lateris quæsiti sine quadrato differentiæ laterum.

Decla-

Declaratio per numeros præcedentis trianguli acutanguli A B C.

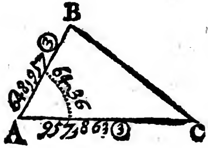
```
                                170  A C
                                 100 A B
                                --------
              100000              17000
               43837                  2
100000 ------ 56163 ---------- 34000
                  34
              ------
              224652
              168489
              --------
              19095|42 (2)
```

add. 4900| quadr. differentiæ.

Summa 23995|42 (2) quadr. B C.

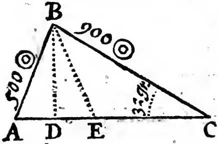
Ergo erit latus B C 154·905 (3) ut supra.

Sequitur aliud exemplum, ad precedentis regula normam.



Esto trianguli A B C latus A B 648. 957 (3) & A C 957. 863 (3) cum angulo A 64 gr. 36 min. Quæritur latus B C.

Sequitur exemplum, in quo angulus datus non comprehenditur à lateribus datis.



Esto hujus trianguli ABC angulus C 32 gr. & latus AB 500, B C 900 virgarum, determinandi sunt anguli, latus & area.

Si hoc triangulum tantum cum numeris suis proponetur, sine formæ ipsius determinatione, quæsita duplici facie & duplici quantitate se pandent, cum hæc nostra quæsita tam acutangulo quam obtusangulo inesse possint triangulo, ut hic A B C & E B C. quia B E est similis B A, & B C cum angulo C utrisqu. triangulis communis; quapropter basis poterit determinari longitudine A C vel E C; alter angulorum erit angulus A vel BEC, alter angulus B, vel angulus E B C, & totum triangulum erit A B C vel E B C. Inde patet, si trianguli duo latera cum angulo alteri laterum opposito data sint, quæsita non posse certò investigari, nisi simul determinetur forma anguli lateri dato oppositi, an ille sit acutangulus vel obtusangulus.

Nos istud hic acutangulum declarabimus, & sic forma trianguli nostri erit A B C, cujus quæsita determinantur sequenti calculo.

Esto B C 100000, & sic B D erit 52992 (sinus 32 gr.) & D E 84805 (sinus complementi 58 gr.) Ergo sequentem instrue ordinem.

Partes	B C	*partes*	*long.* (2)
100000 —	900	B D 52992	B D 476. 93
		D C 84805	D C 763. 24

Porro

Porro esto A B 100000, & sic B D erit sinus anguli A, & A D sinus anguli A B D: Ergo sic pone.

A B partes B D
500 — 100000 — 476. 93 (2)

Facit 95386 partes sinum 72 gr. 32 min. anguli A: itaque angulus B erit 75 gr. 28 min.

Tandem pergendo sic ordinabis numeros.

A B *sinus* 17. 28 (2)
100000 — 500 — 30015 | A D 150. 07.
addit. | D C 763. 24

Facit basin A C 913. 31

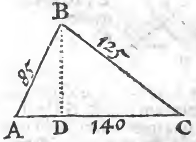
multipl. 91331 (2) basis A C
47693 (2) perpend. D C

273993
821979
547986
639317
365324

4355849383 (4)

Facit 2177924691 (4) pro triangulo A B C.

Exemplum trianguli, cujus latera seorsim cognita sunt.



In triangulo A B C, dantur latera tria, A B 85, B C 125, A C 120 virgar. quæritur, singulorum angulorum quantitas.

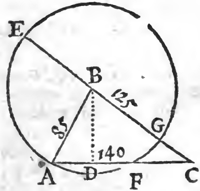
Hoc triangulum perpendiculari ex aliquo angulo

angulorum demiſſo in duo triangula rectangula A B D & D B C diſpeſce, quorum baſes A D & D C inquire, & his inventis in unoquoque triangulo, angulus cum binis dabitur lateribus, quibus cognitis anguli quoque ſecundum Exempli ſecundi regulas inveniuntur.

Baſis autem partes A D & D C ex utroque perpendicularis latere conſtitutæ inveſtigantur per 13 prop. l. 2, brevius autem ope ſequentis regulæ.

In omnibus triangulis differentia quadratorum laterum ſuperiorum ſimilis eſt parallelogrammo baſeos & differentiæ ſegmentorum ex utroque latere perpendiculi ex angulo ſuperiori in baſin demiſſi.

Demonſtratio.



Eſto ex B radio lateris A B deſcriptus circulus, & ſic ſecundum 6 l. 2 quadratum lineæ E C, & G C cum quadrato B G (id eſt B A) ſimile erit quadrato B C, quare ſubtracto quadrato B A à quadrato B C reſiduum erit quadratum linearum E C & G C vel (ſecundum 36 l. 3.) quadratum longitudinis baſeos A C & latitudinis F C erit differentia baſeos & A F : (id eſt duplum A D :)

15625 quadratum B C
7225 quadratum B A vel B G

8400 quadratum E C & G C, vel A C & F C

A C 8400 / 140 { 60 F C, subtrahe ex A C 140, restabit A F 80 id est A D 40 & D C 100.

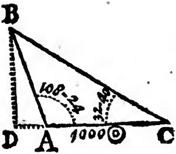
Quia secundum 14 l. 6 A C se habet ad E C ut G C ad F C, partes baseos quoque secundum sequentem regulam inveniri poterunt.

In triangulis planis universis. Vt basis ad summam reliquorum laterum, ita differentia reliquorum laterum ad differentiam baseos, & duplum segmenti minoris baseos prope perpendicularem ex angulo opposito dimissam.

	125 B C	125 B C
Basis	85 B A	85 B A
140	210	40

Facit iterum 60 F C, & simul 40 A D & 100 D C ut supra.

His expositis ad triangulum obtusangulum deveniemus, in quo ex aliquo angulorum perpendicularis extra triangulum demittitur.



Principio esto hujus trianguli basis A C 1000 (o) anguli A 108 gr. 24 min. B 32 gr. 40 min. quæruntur reliqua latera & perpendiculum extra triangulum demissum.

Quia perpendiculum B D duo triangula rectangula D B A & D B C constituit, si illud pro radio sumatur, erit D A tangens & B A secans anguli D B A, & D C tangens, B C vero secans anguli D B C, cumque anguli per 32 l. 1 cogniti quoque sint, quæsita per sequentem operationem patefient.

Tangens.
1559655 D C
332656 D A   A C   *part.* B D

1226999 —— 1000 —— 1000000
Facit perpendiculum B D 814. 997 (3)

Partes B D —— B D —— *secans.*
1000000 —— 814. 997 (3) { 1053878 / 1852707

long. (3)
Facit { B A. 858. 907 / B C. 1509.951

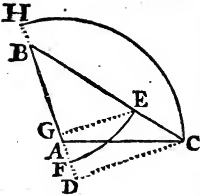
Aliter ad latera A B *&* B C *invenienda.*

Vt se habet sinus anguli B ad latus oppositum A C, sic se habent sinus angulorum A & C ad latera B C & A B sibi opposita, & econtra.

Sequitur operatio.

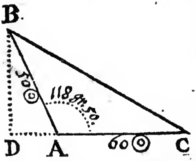
Sinus   A C   *sinus*   *long.* (3)
628416 — 1000(0) { 539751 | A B. 858.907 / 948876 | B C. 1209.949

Demon-



Esto B E æqualis A C, radio lateris A C describatur arcus A C & E F, & post horum perpendiculares C D & E G demittito, quorum C D est sinus anguli A vel C A D, & E G sinus anguli B.

Itaque (secundum 41. 6) ut se habet E G, (sinus anguli B) ad B E (i. e. ad latus A C) sic se habebit C D (sinus anguli A, vel C A D) ad latus B C, & econtra.



E. G. In dato triangulo obtusangulo A B C dantur duo latera A B 50 virgar. & A C 60 virg. cum angulo A 118 gr. 50 min. quæruntur reliqui anguli & latus.

Ex angulo B perpendicularem B D in basin prolongatam demittito, quæ duo triangula rectangula A B D & D B C constituit, cum itaque trianguli A B D latus A B cum angulis seorsim cognitum sit, quærenda sunt B D & D A sequenti calculo.

Partes A B *ſinus*

100000 — 50 { 87603 | B D 43. 801 (3)
{ 48226 | D A 24. 113 (3)

Porro D C ſit radius, & B D erit tangens, B C vero ſecans anguli C, quibus ſic poſitis invenire licet angulum C cum latere B C, ut ſequitur.

D C *partes* D B
84. 113 (3) — 100000 — 43. 801 (3)

Facit 52074 tangens 27 gr. 30 min. pro angulo C, quapropter ſecundum 32 l. 1 erit angulus E 33 gr. 40 min.

D C *Secans* 27. 30.
100000 — 84. 113. (3) — 112738

Facit latus B C 94. 827 (3)

Sin autem angulos ſeorſim quærere placet, ſequenti ordine ſecundum præcedentem regulam id age.

Vt 110 ſumma laterum datorum A B & A C ſe habet ad 10, eorundem differentiam: Sic 59101 tangens 30 gr. 35 min. dimidii ſummæ angulorum B & C ad tangentem differentiæ uniuſcujuſvis anguli & dimidium ſummæ.

Operatio.

60 A C 60 A C
50 A B 50 A B
——— ——— *tang*. 30. 35
110 ——— 10 — 59101

Facit 5373 tang. 3 gr. 5 min.. hos adde 30 gr. 35 min. & emerget angulus 33 gr. 40 min. B: eodem tangente ſubtracto, reſtabit angulus C 27 gr. 30 min. ut ſupra.

Vel

Vel sic.

AB — AC — *secans* 28 gr. 50 min.
50 — 60 — 114152
60
6849120

184
6849120 | 136982 productum.
50 | 55051 Compl. tangentis.

Summa 192033 tangens 62 gr. 30 min. complementi anguli C; & sic angulus C (minori lateri A B oppositus) erit 27 gr. 30 min. angulus vero B. (majori oppositus lateri A C) 33 gr. 40 min.

Aliter fieri poterit, si tantum latus B C *investigabitur.*

Quod ad jussum praecedentis regula sic fiet:

Vt 100000 Radius se habet ad 48226 Sinum complementi anguli dati, sic 6000 duplum parallelogrammi lateris dati, ad differentiam summae eorundem quadratorum & quadrati lateri quaesito inscripti.

60 A C
50 A B

3000
2

sinus 28. 50 —
100000 — 48226 — 6000
Facit 2893 | 56 adde
6100 | quadr. laterum A B, A C

Summa 8993 | 56 (2) quad. lateris B C, ex quibus radix extracta 94. 834 (3) latus B C mensurabit: ferè ut supra.

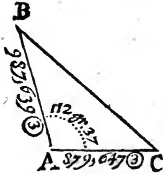
Aliter.

Vt Radius se habet ad 148226 (summam radii & Sinus complementi anguli A) sic 6000 (duplum producti laterum) se habet ad quadratum lateris quæsiti fine quadrato differentiæ laterum.

```
                                      60 A C
                                      50 A B
           100000 Rad.              3000
            48226 sin. 28.50.          2
Radius   ________                 ______
100000 —— 148226                    6000
               6
          ________
          8893|56 (2)
   Add.    100| quadr. differentiæ laterum.
   Summa  8993|56 (2) quadratum lateris B.
```

Et sic iterum emergit numerus 94.834 (3) longitudo lateris B C ut supra.

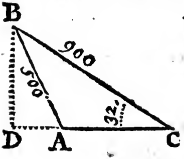
Aliud exemplum.



In dato triangulo A B C notus est angulus A 112 gr. 37 min. una cum lateribus:
A B 987. 639 (3),
A C 879. 647 (3);
Ex quibus reliqui anguli cum latere B C investigandi sunt.

Exem-

Exemplum, ubi latera data angulum datum non includunt.



In triangulo dato A B C dantur latera A B, 500 & B C 900 virg. cum angulo C 32 gr. quæruntur reliqui anguli, latus & area trianguli.

Operatio hac esto.

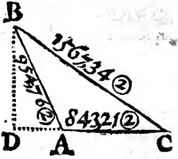
Partes B C *Sinus* (3)
1000000 — 900 { 529919 | 476. 927 B D
848048 | 763. 243 D C

A B : *partes* B D
500 — 1000000 — 476. 927 (3)

Facit 953854 Sinus 72 gr. 32 min. anguli B A D, unde anguli A magnitudo 107 gr. 28 m. est, angulus vero B 40 gr. 32 min. continet.

A B *Sinus* D A
1000000 — 500 — 300151.

Facit D A 150. 075 (3) quo subtracto à latere D C 763. 243 (3), residuum erit basis A C 613. 168 (3), & sic trianguli A B C area 146218. 1874 (4) continebit.



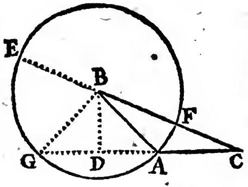
In triangulo obtusangulo A B C data sunt latera singula, nempe
B C 1567. 34 (2)
B A 954. 76 (2)
A C 843. 21 (2)
quæruntur anguli singuli cum areâ contentâ.

Rectan

Rectangulis triangulis B D A & D B C per perpendiculum B D demissum constitutis, quære D A per 12 l. 2 vel brevius per sequentem regulam.

In triangulis obtusangulis differentia quadratorum laterum æqualis est parallelogammo baseos cum duplo lineæ (obtusangulo adjacentis) prolongatæ usque ad perpendiculum demissum, ut longitudinis, & solius baseos, ut latitudinis.

Demonstratio.



Cum enim per 6 l. 2 quadratum lineæ B C æquale sit quadrato linearum E C & F C unà cum quadrato B F, (id est) B A; si subtrahatur B A ex quadrato B C, residuum erit quadratum E C & F C, vel secundum 36 l. 3 quadratum longitudinis G C (i. e. A C cum duplo A D) & latitudinis baseos A C.

Declaratio per numeros.

(4)
24565546756 quadr. B C
9115666576 quadr. A B

15449880180 quadr. E C & F C vel G C & A C.

1544-

15449880180 (5) (1832 | 270 G C
A C 84321 (2) \ 843 | 21 A C Subtr.
989 | 060 G A
Facit D A 494 | 530

Aliter pro inquirenda D A.

Cum ſecundum 14 lib. 6 latera quadratorum ſupra commemoratorum, ut E C cum F C & G C cum A C ſint in ratione reciprocâ; ſequitur:

In triangulis obtuſangulis:

Vt ſe habet baſis ad ſummam reliquorum laterum, ſic eorundem differentiam ſe habere ad baſin unà cum duplo lineæ prolongatæ obtuſo angulo adjacentis) uſque ad perpendiculum ex ſuperiore angulo in ejus terminum demiſſum:

	(2)		(2)	
	1567	34 B C	1567	34 B C
Baſis A C	954	76 B A	954	76 B A
84321 (2) —	2522	10 ——	612	58

Facit iterum G C 1832 | 270 (3)
Subtrahe A C 843 | 21
Reſid. G A 989 | 060
Et D A 494 | 530 ut ſupra.

Nunc quoque ad angulorum inquiſitionem progrediendum.

A D *partes* A B
494.530 (3) — 1000000 — 954,76 (2)

Facit 1930641, qui exſuperat ſecantem 58 gr. 48 min. numero 240; qui 16 circiter ſecundas exhibebit; quæ ſequenti inveniuntur calculo.

Secans

Secans

1931329. 58. 49 — 1930641

1930401. 58. 48 — 1930401

secund.

928 —— 60 —— 240

Facit 16 secundas; & sic erit angulus quæsitus B A D 58 gr. 48 min. 16 sec. angulus verò obtusus A 121 gr. 11 min. 44 sec.

D C — *partes* — B C

1337. 74 (2) —— 1000000 —— 1567. 34 (2)

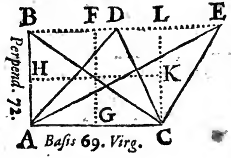
Facit 1171633, secans 31 gr. 24 min. 16 sec. angulus C, sicque secundum 32 l. 1 pro angulo B restabit 32 gr. 24 min. o sec.

Cum autem praxeos consuetudo secum ferat, ut inventis lineis triangulorum area inveniatur: Illa duplici modo in omnibus investigabitur triangulis.

Primus modus absolvitur auxilio baseos & altitudinis trianguli, (id est perpendiculi ex superiori angulo in basin subjectam demissi,) alter per tria trianguli latera quæsitam aream determinat.

Regula prima.

Ducito basin in dimidium perpendiculi, vel dimidium baseos in totum perpendiculum, productum determinabit aream trianguli.



Ratio hujus est deprompta ex 41 li. 1 Euclidis, nempe quod parallelogrammum, baseos & dimidii per-

perpendiculi ſeu totius perpendiculi & dimidiæ baſeos, triangulo dato æquale ſit.

E. G. Eſto triangulorum æqualium A B C, A D C & A E C (ſecundum 37 l. 1 Euclidis) baſis communis A C, uniuſcujuſvis vero perpendic. ſeu altitudo A B, parallelogrammumque commemoratum A B F G & A H K C.

Cum itaque A B L C (ſecundum 36 propoſ. lib. 1) duplum ſit triangulorum ſingulorum, & (ſecundum 34) duplum quoque trianguli A B C ſit, ſequitur ſingula triangula æqualia eſſe ſingulis parallelogrammis A B F G, & A H K C.

Cum vero ſecundum 16 def. l. 7 area uniuſcujuſvis parallelogrammi ſit multiplicatio duorum laterum ſuorum (id eſt, longitudinis & latitudinis) productum quoque erit æquale areæ uniuſcujuſvis trianguli.

Declaratio per numeros.

96 *Baſis* A C	72 perpend. A B
36 A H dimid. A B	48 A G vel dimid: A C
576	576
288	288

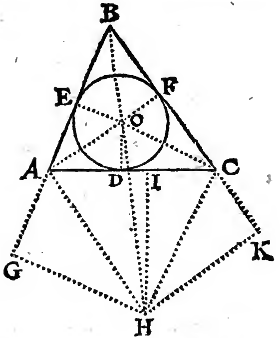
3456 æqualis —— 3456 Area parallelogrammi A B F G vel A H K C, aut trianguli A B C, vel A D C, aut A E C.

Regula ſecunda ex tribus datis lateribus aream trianguli concludere docet.

Latera oblati trianguli in unam ſummam collige: ex ſummæ dimidio ſingula

gula auferto latera, ut tres differentiæ inter ipsum dimidium & singula latera habeantur, tandem tres hæ differentiæ dictumque dimidium inter sese mutuo multiplicentur, producti numeri radix quadrata dabit aream quæsitam.

Esto triangulo A B C circulus secundum 4 1.6 inscriptus, ex cujus centro ad trianguli angulos ducantur lineæ O A, O B, O C: lateribusque imponantur perpendicularia Q D, O E,



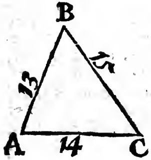
O F; & sic A D erit æqualis A E, B E æqualis erit B F, & C F, erit æqualis lineæ C D. his sic absolutis B A & B C prolongato, donec A G æqualis sit lineæ D C, & C K lineæ A D.

A D, erit itaque B G dimidium unius trium laterum, quod cum O E (aliquo perpendicularium seu semidiametrorum) multiplicatum, triangulum A B C producet; simul quoque B G comprehendet tres differentias B E, E A, & A G summæ ex tribus lateribus additis collectæ & singulorum laterum; porro G H lineæ B G perpendiculariter imponatur & K H perpendicularis quoque fiat linea B K, concurrantque G H & H K in B H (linea ex angulo A per centrum O deductâ) fiat quoque A I æqualis lineæ A G, ductoque H I, quæ est æqualis lineæ H G, (cum singulæ minores sint quadrato A H, quadrato A G vel A I subtracto) & angulum rectum : facit cum lineâ A C: sicque in quadrato H G A I anguli A & H simul sumpti æquales sunt duobus rectis, ut quoque in quadrato A E O D anguli A & O. cum itaque secundum 13 lib. 1 anguli G H I & E A D sint æquales, illorum quoque semisses G H A & E A O erunt æquales.

Triangulis verò G A H & A E O similibus, & (secundum 16 lib. 6) quadratum lineæ E O & G H erit æquale quadrato E A & A G, habet itaque se B E ad B G ut E O ad G H, vel (secundum 1 lib. 6) ut quadratum E O ad quadratum E O & G H vel quadratum E A & A G, quapropter (secundum 16 l. 6) productum B G cum quadrato E O æquale est producto G A & A E cum E B) tribus differentiis) hæ singulæ ductæ in B G (dimidium summæ trium laterum) producent ex hac parte productum quadrati E O cum quadrato B G, ut ex altera parte quadratum B G (trium differentiarum cum ipsa B G) dimidium summæ trium laterum; tandem radice quadrata

quadrata ex singulis lateribus extracta ex hac parte emerget quadratum lineæ B G & E O, vel area trianguli A B C, ut & ex altera parte proveniet radix producti trium differentiarum G A, A E, E B cum A D dimidio summæ trium laterum.

Declaratio per numeros.



In dato triangulo A B C sunto latera data.

A B 13 } virg. quæritur
A C 14 } trianguli area.
B C 15 }

Latera { 13 A B / 14 A C / 15 B C } add.

42 summa.

21 . . . 21 . . . 21 dimidii.
13 . . . 14 . . . 15 latera subtrah.

8 . . . 7 . . . 6 — residua.
7

56
6

336 productum trium residuorum.
21 dimidium summæ laterum.

336
672

70|56 productum ultimum.
Radix 8,4 area trianguli A B C.

F I N I S.

NOTA.

Vltima manu tabularum impreſſioni jam impoſitâ, tabularum numeros ſumma diligentia cum correcto Canone contulimus, & ne in unam quidem mendam incidimus, ita ut de harum tabularum emendatione practico nullus ſcrupulus oboriri debeat.